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ORIGINAL ARTICLES.

ON HABITUAL CONSTIPATION.

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Part I.

Habitual constipation is such an ordinary and apparently simple affection, that casually it may seem strange to make it the subject of an essay, but those who fully comprehend its significance, and realize to what extent it may embitter human existence, recognize in it a matter of vital importance. It would be an error to impute to the profession a spirit of indifference concerning this anomaly, for physicians have always been accustomed to bestow assiduous attention upon the state of the intestinal function, and were we to judge by their maxims and methods we might justly infer that activity of the bowel constituted, in their opinion, the prime factor in therapeutics. No one can be wholly ignorant of the views entertained and stereotyped methods practised for the promotion of the visceral process. A review of medical literature shows that of all therapeutic measures advocated, those that stimulate or irritate the alimentary tract are the most popular, and one cannot fail to be impressed with the constantly recurring insistence upon the necessity of purgation for the relief of all manner of physical perversions. True, a broader knowledge of the action of drugs, a more correct comprehension of physiological laws, and a deeper penetration into the source and nature of disease, have latterly greatly modified medical doctrine and practice in every department, and especially in the matter before us; nevertheless, although considerably moderated, it cannot be denied that the injurious methods born of previous prevailing customs are still largely in vogue. With a view to obtaining a more definite and comprehensive understanding of this important topic, I will endeavor in the following pages to consider, from a common-sense standpoint, the source, nature and rational management of constipation. In doing this I will be compelled to refer somewhat critically to prevailing doctrines and customs, and in order that the argument may be presented clearly and forcibly, will also be obliged to review certain physiological principles with which physicians are conversant.

While chronic constipation obtains in both sexes and is highly detrimental to each, it is more especially so to the well being of women; we will therefore discuss the subject with particular reference to this fact, although the principles adduced and therapeutic measures commended will be applicable to the disorder wherever existing.

Intestinal inertia is not only far more prevalent with women than with men, but owing to anatomical and physiological sexual peculiarities, it is fraught with more disastrous consequences. This inequality of occurrence in the sexes is due to several obvious influences. Accustomed neglect of physical exertion is highly conducive to intestinal torpidity. The rectal and pelvic tissues of the female are less resistant, and are not endowed with the same power of resilience possessed by the analogous male structures. Furthermore, there seems to exist in the sex a peculiar inherent proclivity to procrastinate the act of defecation; also they are prone to indulge more largely in the use of unwholesome articles of diet. With them it is not merely the retention of irritating and noxious matter that engenders unfortunate complications, but the vascular and mobile character of the female generative organs presents the most serious phase when associated with this abnormity and the consequent forcible efforts exercised in expelling accumulated hardened faeces.

That we may intelligently discuss abnormal defecation it will be necessary first to refer briefly to some of the salient physiological features connected with the normally performed process. This will unavoidably necessitate the presentation of certain familiar and accepted principles, but we trust that later it will be recognized as appropriate to the objective point of our argument.

It is not my intention to deal with that variety of constipation dependant upon mechanical obstruction, such as rectal stenosis, strangulated hernia, intussusceptions, etc., but simply with that form which is encountered under ordinary physical conditions. It is well known that the intestinal organs possess a twofold physiological function, that of assimilation and elimination. The absorbent power of the large bowel is especially active, a fact corroborated by the experience of any one having been compelled to resort to rectal alimentation. A careful consideration of the physiological action of the alimentary canal would be appropriate and profitable, but for the sake of

conciseness we must limit our observations chiefly to that horseshoe-shaped lower portion designated the colon. A brief reviewal of its anatomical and physiological peculiarities may aid us in our deductions. This organ we know is ordinarily one-fifth the length of the entire intestine, or more definitely, about the length of the body. Its caliber is from 1½ to 2½ inches, the widest portion being at its origin in the right iliac fossa, where the smaller intestine enters it at right angles, as if thrust through a slit made in its left side, which we recognize as the ileocæcal junction or valve. Concerning this opening it may not be irrelevant to insert a few remarks. In several instances I have been strongly impressed by the erroneous ideas entertained concerning the nature of the ileocæcal valve. Repeatedly I have been cognizant of active but futile efforts made by medical men to project air or fluids per rectum into the ileum for the avowed purpose of dislodging an incarcerated portion of the small gut, or the disentanglement of a suppositious "knot" in the intestine. I have also heard physicians, as well as patients, positively declare that in certain cases of obstinate vomiting, liquids thrown into the rectum have found their way through the intestinal canal, and were ejected *per os*. Now, it is absolutely impossible for this to occur, as the slit through which the small intestine opens is most effectually guarded by two semi-lunar segments or lips. These labial folds, projecting their free margins into the large intestine, offer no impediment to the full egress of matter from above, but are so constructed, and their coaptation is so perfect, that neither fluids or gases can, by any means, be made to pass from below upward.

Owing to the remarkably sacculated conformation of the colon, its internal or absorbent surface is much greater than a casual observation would suggest.

It will be remembered that while the large, like the small intestine, has four coats, viz., serous, muscular, areolar and mucous, they differ decidedly in their distribution and histological aspects. The longitudinal muscular fibres, instead of being disposed evenly over the intestinal wall, are found chiefly in three bundles which extend from the blind pouch to the commencement of the rectum, and dividing the colon circumferentially into three longitudinal rows of sacculi. These bands being shorter by one-half than the actual length of the intermediate intestine, act like three puckering strings, hence the sacculated or pouched appearance of the colon. These pouches are again divided by crescentric ridges or folds, wherein the circular muscular fibres are most abundant, although the circular fibres are much more evenly distributed than the longitudinal. This sacculated condition is comparatively meagre in the infantile colon, and becomes more marked with age, especially where habitual constipation has existed. Where the sigmoid portion blends with the rectal, the sacculi suddenly disappear, and the muscular, longitudinal fasciculi speedily spread, forming a uniform thick stratum. The circular fibres are distributed more evenly, thereby forming the smooth elastic muscular rectal wall. The mucous surface of the colon is peculiar; unlike that of the ileum, it is devoid of villi. The submucous coat through which ramify the blood vessels, nerves and lymphatics, rests loosely upon the mucular coat, while it is quite intimately attached to the mucous membrane. This loose attachment is especially marked along the rectal portion, hence the gliding, oscillating sensation experienced by the touch.

If the external surface of the colon be examined with a lens, there will be discovered a remarkable, cribriform appearance. The crypts are the mouths of Lieberkühn's follicles, and so abundant are they as to be estimated by millions.

We have already referred to the absorbent ability of the large bowel; indeed, it appears that its grand function is that of inspissation. Below the stomach no portion of the intestinal tract manifests this imbibing power to such a degree as the lower third of the colon. Let us notice the manner in which this inspissating process is peformed. When the alimental material escapes from the ileum into the cæcum, it is a thin chymous fluid. This grumous matter is now moved gently onward from one sacculus to the next by the rhythmic contractions of the muscular coats of the intestine, these vermicular movements passing slowly from behind forward, in successive wave-like motions. As the pulpified material moves onward, its liquid constituents are gradually taken up by the absorbents, so that by the time it reaches the sigmoid flexure it possesses a semi-solid consistency. When the mass enters the upper portion of the rectum, it has passed the boundary of the involuntary peristalsis, and its progress consequently is temporarily arrested—the drying process, however, still continuing. When there is a sufficient accumulation within the rectal ampulla the presence of the mass irritates the spinal nerves, and these solicit the attention of the cerebral ganglia. Should time and circumstances be favorable, the sympathetic ganglia also are notified, the distal circular fibres relax and are pulled open by the powerful contractions of the longitudinal fibres, the circular fibres behind vigorously contract, and the mass is expelled, the act being completed normally without any voluntary muscular effort. Most strenuously do we assert that the bowel possesses intrinsically all the requisite power for alvine expulsion, and maintain that the doctrines taught in our text-books claiming that diaphragmatic and other extrinsic voluntary influences are normal accessories, are not only

erroneous but mischievous in their tendencies, since they engender and uphold evil habits.

In studying the nature and history of habitual constipation, we will ordinarily be able to trace it to certain definite creative and perpetuating influences. There are a variety of these predisponents which may act singly or conjointly. As a comprehensive and sound diagnosis is indispensable to successful therapeutics, we will study some of the more pronounced originating and establishing causes under their separate heads.

1st. Negligence.
2d. Lack of exercise.
3d. Abuse of purgatives and laxatives.
4th. The use of the rectal douche.
5th. Voluntary muscular expulsive efforts.
6th. Nervous derangements.

NEGLIGENCE.

In this age of emulation, where the mental and physical faculties are kept continually at their highest tension in every department of life, many, through ignorance of physiological laws or lack of due consideration, unconsciously form the extremely unfortunate habit of disregarding the regular daily requirements of personal health. The ambitious literateur, the active merchant, the society devotee, have their minds so absorbed by their respective engrossing pursuits, that from the moment of waking to that of sleeping, they will devote no time to commonplace, personal matters that can possibly be temporarily deferred. All are unduly hurrying to begin their arduous duties, which, once entered upon, demand such uninterrupted and assiduous attention throughout the entire day that it would be somewhat embarrassing, and often impossible, to respond to the promptings of nature for the evacuation of the bowels. Nature has given to all a faithful monitor which attracts the attention of each individual for the expulsion of accumulated excrement at regularly recurring periods. This physiological phenomenon is subservient to will-power which enables man, to a certain extent, to direct and control times and circumstances. Should these sensations be repeatedly ignored or long deferred, the regularity of their recurrence is destroyed. At first they will disappear, to return when circumstances admit of their receiving due attention, but even then it will be found that the drying process and accumulation have been steadily progressing in the rectal receptacle, and accordingly the act will be accomplished with more difficulty. Should these natural promptings be systematically disregarded, they not only diminish in regularity and energy, but cease altogether, and respond only to the exercise of the will, or appear in the form of actual pain excited by the over distention of the bowel with the hardened mass. Every one knows how the healthy involuntary signals of the rectal nerves can be suppressed, as well as aroused by will-power, and it is equally well known that when the normal sensations are wilfully and persistently disregarded, little by little this neglect destroys the healthy nervous action of the bowel, and in its place we have unwittingly established an inveterate enemy, and one not easily dislodged. And now, when too late, we realize that nature's rules cannot be disregarded with impunity, for, as heretofore, the will has arbitrarily exercised its domination in suppressing natural promptings, so now the perverted functions positively refuse to respond to any effort of will-power.

Not only does the prolonged presence of scybalæ impair the normal sentient properties of the rectum, but the pressure of the retained mass induces atrophy of the muscular coats of the bowel, and through this atrophy and dilation the intestinal wall is rendered powerless, and, therefore, the peristalsis disappears. This condition is very common in women addicted to costiveness; here the rectal ampulla is greatly dilated and almost invariably filled with scybalæ, while the rectal walls will be found semi-paralyzed and thin, often bulging into the vagina, and in this way originating rectocele. Even when the intestinal walls are normally conditioned, cases occasionally occur where the fœces accumulate and stretch the contractile fibres beyond their capacity, so that they lose their power to contract, to the great discomfort and embarassment of the individual; and when once subjected to this distending process, it requires prolonged assiduous attention to restore them to their former state of tonicity.

LACK OF EXERCISE.

Physical inaction is another fruitful source of chronic constipation. It is a well known physiological fact that each part of the body reflects, to a greater or lesser degree, the condition of the whole. It is also equally true that negligence of physical exercise results in a corresponding degeneration of the unused tissues.

If we would retain the normal integrity of the body, every portion of it should be subjected to a certain amount of regular healthful exercise, and a disregard of this principle entails a host of physical and mental ills. Without bodily activity the circulation of the blood is imperfectly carried on, digestion and assimilation are greatly impaired, the lymphatics and emunctories become clogged, and the system loaded with effete and noxious matter. The physical result of all this is depreciation of the vital fluids, and waste and enfeeblement of sustaining tissues, which may be substituted by unconsumed carbonaceous matter in form of fat. The mental effect is a

weakening and undermining of these faculties. As a natural associated sequence of this general topor we have the intestinal canal loaded with residual debris and effete products.

There are two classes subject to this form of costiveness. The first includes those whose vocations presumably preclude to a great degree out-door pursuits, or whose duties demand the exertion of only a restricted portion of the body. In this class are bookkeepers, tailors, seamstresses, etc. The other includes mainly those in the higher social ranks, who lead an indolent life, and who, from sheer laziness, decline to avail themselves of the benefits to be derived from activity. In this latter order are often found our most intractable cases, for through the enervating influences of a sedentary life, and a native stolidity or mental torpidity, it is almost impossible to arouse in them a just appreciation of the importance of physical recreation, or to obtain from them a faithful compliance or even satisfactory comprehension of the principles however faithfully presented. Few abnormities are more vexatious and unsatisfactory to treat than habitual costiveness dependant upon slothfulness of mind and body. Indeed, nowhere do physicians encounter more exasperating cases than in these patients who, through obnoxious customs and self-sufficiency, have become indifferent and often averse to the dictates of reason. Admonish them with all earnestness, and they will listen complacently and tacitly adhere to their previous opinions and vicious habits.

Insist that common-sense practicalities be respected, and in all probability you will, ere long, be superseded by another more obsequious, who is ever ready to pander to the perverse views of the shallow-minded.

ABUSE OF PURGATIVES AND LAXATIVES.

Many of us who graduated ten years ago will remember that the professor in obstetrics recommended that a gentle purge be administered to the infant a few hours old. That this was formerly deemed a commendable expedient, older physicians and nurses can testify. To what extent this custom prevails to-day the writer is unable to state, but, doubtless, it is considerably modified. In this we have a very suggestive feature for our consideration, as without question the misery arising from habitual constipation ofttimes has its foundation in the mischievous drugging of childhood, from which time the animal economy has been systematically ruined through the evil practice inaugurated in the cradle. Were we to judge by the precepts and practice of the masses, we would certainly infer that "an open state of the bowels" constituted the *sine qua non* of their physical well-being. To this end there is a brisk demand for all kinds of patent drugs, aperient waters, and a host of cathartic compounds that flood the country and are dispensed in such enormous quantities. One manufacturer assured me that he alone sold annually over seven tons of his cathartic pills. So infatuated are the majority with this wretched doctrine that a feeling of malaise immediately suggests some anomaly which they designate as "torpidity of the liver," "biliousness," or some other ill-defined malady which they conceive lurking among the visceral organs, and straightway bring to bear the artillery of their purgative armamentarium for the dislodgement of the ideal foe.

If a sensation of unusual lassitude, headache, indigestion, sleeplessness, flatulency or other discomfort is experienced, a "blue pill," an "anti-bilious" pill, an "aperient" or "opening pill" is at once resorted to, either self-prescribed or gratuitously recommended by some injudicious friend, who has always on hand some remarkably effective article. There is no necessity for applying to the physician, as every pharmacy is replete with all these nostrums, and often presided over by consequential officious persons ever ready to offer their personal advice. The public have but slight knowledge of how much of the misery of life originates in the individual patronage of this widespread evil, nor how the road to a lucrative professional practice is paved by this ill-advised custom. But how is it that this unfortunate habit has so obtained with the masses in every civilized country, that the common ailments of the body are largely associated with the notorious idea of purgation? As an aid in answering this question let us refer to the medical literature of the past century. A review of the teachings therein advanced on constipation is highly interesting, not from any absolute merit it possesses (for in this respect it is wretchedly meagre), but it displays a monotonous insistance of the necessity of purgation in some form or degree. In the earliest of these writings we even find "blood-letting" and "active emesis" combined with the administration of drastic catharsis recommended for chronic costiveness. Later, or about the middle of the present century, we miss the phlebotomy and vomiting, and only *active* purgatives are recommended, such as large doses of jalap, sulphate of magnesia, calomel, mandrake, aloes, colocynth, and even croton oil, given usually in combination with several other ingredients. The minds of the authors are evidently imbued with the belief that their duty was not correctly performed unless the catharsis was pushed to the extreme, for we are assured that unless the purgation be "thorough," or "brisk," or "full and active," masses of alvine matter may remain, and that the "habit" will not be "broken up." Furthermore, they recommend a "*course*" of purgation, that is, a repetition of the

process with a certain number of days intervening. As we approach the present period we find laxatives, electuaries, massage and dieteties advised, and there has crept in a tone of disaproval of *drastic* cathartics. Some of these modern writings contain really excellent hygienic doctrine, but with hardly a single exception the teaching is rendered null and void by the final advice,—the employment of aperients or laxatives. One advises a pill of aloes and strychnia after each meal, or a larger single dose on retiring. Another commends some one of the numerous aperient "saline" or "mineral" waters in sufficient quantity to secure solvency of the alvine matter. Humiliating then, as it may be, it cannot be denied that the *fons et origo* of this universal custom of resorting to cathartics, with all the wretchedness entailed, is found in the orthodox precepts of the medical profession.

The multitude of laxative compounds advocated and employed to stimulate the intestinal function need not be enumerated. That this method of therapy is diametrically opposed to sound reason is plain to all who are acquainted with the action of drugs. Not a single medicament can be instanced that does not exert its primary and secondary physical effect, in every case the secondary being opposite to and more abiding than the primary. As an illustration take alcohol. Its first action is stimulation, its second depression. The action of narcotics is to produce sleep, but this is invariably followed by a period of obstinate wakefulness. The administration of digitalis or veratrum viride in doses sufficient to decrease the activity of the heart is followed by accelerated action. Were it necessary the demonstration of the duality of drug action could be extended indefinitely.

Another well-known feature in therapeutics is that the system becomes so inured to the drug to which it is repeatedly subjected, that to overcome this inurement, together with the acquired opposite state which follows upon its previous action, a successive increase must be made in the dose administered: hence a man who can originally induce sleep on the eighth of a grain of morphine, will, through repeated indulgence, be compelled to take ten times the amount before a corresponding soporific effect is secured. Nowhere is the double action of drugs more clearly displayed than in the administration of cathartics. Every one who has observed or experienced the action of purgatives will acknowledge that a dose of castor oil, sulphate of magnesia, rhubarb, jalap, mandrake, or any other cathartic, is assuredly followed secondarily by costiveness. And yet, confronted with this evident fact, the profession, as well as the laity, act in direct opposition to a law as apparent as that of gravitation.

USE OF THE RECTAL SYRINGE.

Some years ago the recognition of the insufficiency and evil results of purging for the relief of intestinal torpidity, originated the practice of applying solvents directly to the retained matter. The use of the rectal syringe has been highly extolled by many, and, *a priori*, it does seem more philosophical in its workings, and fraught with less serious consequences, than that which necessitates the disturbance of the entire alimentive apparatus. The daily employment of the syringe has been advocated by the majority in the profession, including the highest authorities in both schools, and now let us look into the wisdom of this advocacy. Nothing is more readily demonstrated than the certainty that nature resents all officious interference with the normal performance of her duties. If we presume to take the responsibility of supplying an artificial process for the natural one, nature either directly repels our intrusion or withdraws her services, and relinquishes to us the task. A dry, harsh condition of the hair succeeds the application of grease. The auricular canal and tympanum are rendered parched and irritable by the repeated use of artificial lubricants. The natural pliancy and moisture of the skin can be destroyed by the continued employment of oil, and so throughout every physiological feature of the body, nature is eminently conservative and will brook no encroachment. The use of the rectal syringe still further emphasizes this principle. Those having studied this matter will testify that the lifeless condition of the rectum consequent upon a prolonged use of the syringe or rectal suppositories is infinitely more difficult to overcome than the worst form of costiveness dependent upon ordinary conditions. The lower bowel is endowed with a myriad of muciparous glands for the supply of a natural solvent. If an artificial one be substituted, and its use persisted in, the glandular structures whose function is the secretion of intestinal juices for the maintenance of normal solvency and easy expulsion of the alvine excreta, soon become inactive and finally atrophied through the application of mischievous irritants and disuse.

In the face of the foregoing incontrovertible facts, catharsis is persistently advocated by the profession, and the habitual use of the syringe extolled as a "blessing" for the relief of intestinal torpidity. It is difficult to excuse such a widespread fatuity among men enjoying to such an extent opportunities for practical observation, and to whom the faculty of intelligent discrimination is so universally accredited. A certain writer has recently denied to physicians, as a class, the right to be enrolled among thinkers, and surely we can hardly defend ourselves against the imputation, when we are confronted on every hand with practices wherein philosophical principles are

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habitually ignored, and short-sighted, reprehensible methods upheld; where established opinions are zealously cherished and prosecuted, and where every new doctrine that opposes accepted beliefs is ridiculed or bitterly denounced. In the matter before us we have a good illustration of this blind adherence to ancient precepts, as well as a proof of this deficiency in the exercise of the reasoning powers, for wherever obstinate costiveness is complained of, we find medical men commending therapeutic agents the ultimate effect of which is the manifest creation and establishment of the morbid condition which their use is supposed to relieve. Any observer of the dual action of purgatives will readily perceive the absurdity of all this, which folly is not lessened by the mere diminution of the dose; for the principle and final result are the same, being only a question of time and degree, mild doses leading up to and demanding larger quantities. Let it not be inferred that we unqualifiedly prohibit catharsis or the use of the syringe, for there are recognized cases where the well-being of patients demands an efficient cathartic or rectal enema, as when there exists an impaction of hardened fœces within the bowel, but these occasions are comparatively rare. It is the mischievous and systematic repetition of this form of treatment that merits condemnation. If we would avail ourselves of the legitimate curative properties of laxatives let them be administered appropriately, in repeated small doses, for the relief of diarrhœas, when they will yield brilliant results.

VOLUNTARY MUSCULAR EXPULSIVE EFFORTS.

We have previously referred to the habit of straining at stool as one of the predisponents to costiveness. When voluntary expulsive effects are habitually made the intestinal peristalsis is proportionately destroyed through disuse, and consequently the intestinal wall becomes more passive and its tissues less resistent; therefore the caliber of the tube increases and the sacculi deepen. Not only is the peristaltic action of the bowel impaired, through the influence of extraneous efforts, but the rectal, perineal and pelvic tissues are injured by this straining. It is not necessary to describe the general turgescence that accompanies each effort. So markedly do these efforts affect the entire vascular system that remote parts, such as the tissues of the hands and face will for the moment be visibly injected. How much greater must be the determination of blood to the parts directly involved may readily be infered. These parts, it must be remembered, abound more fully in areolar tissue and valveless veins than any other portion of the body, and therefore are highly susceptible to congestion and subsequent deterioration. When habitual forcible defecation is practised the walls of the pelvic blood-vessels gradually lose their resilience and dilate. The capillary circulation becomes weakened and the insufficiently-nourished tissues lose their tonicity and degenerate, although their actual bulk may increase through blood stasis. Later, we have the enormously dilated capillaries coalescing and forming sinuous meshes, as witnessed in hemorrhoidal development, which is merely a tangible expression of that which is occurring in less visible structures.

While violent expulsive efforts often seriously affect men, producing hemorrhoids, rectal prolapsions, prostatic enlargements, &c., the consequences are infinitely more disastrous to women. The pelvic structures in the female are pre-eminently unfortunate in their construction, situation, and attachment, when considered in connection with those influences which contribute to turgescence and, at the same time, to depression. They are highly endowed with blood-vessels which ramify largely through loose areolar tissue, while their attachments to firmer surrounding structures are notably yielding. Superadded to these conditions, the pelvic floor presents a very imperfect support to these mobile organs. The outcome of all this may be described as follows: When a woman assumes the position necessary to defecation, and vigorous expulsive efforts are made, all the pelvic parts become engorged and are forced toward the outlet. The continuation of this vicious habit is invariably followed sooner or later with serious consequences. From it we have first blood stasis, with consequent devitalization of the textures, followed by prolapsions of the uterus, rectum, vagina, bladder and ovaries.

As illustrative cases are always instructive, a report of the following typical case may aid us in portraying the evil consequences of habitual catharsis, rectal enemas, and forcible defecation combined. Mrs. ———, aged 39, a strong, robust woman, possessing naturally an excellent constitution, relates the following history: Has always been in the habit of taking purgatives to correct "biliousness," she being naturally an immoderate eater of the richest food. Confesses to having taken massive doses of "rhubarb," "salts," "jalap," etc., and to have faithfully tested the reputed virtues of all the popular cathartic pills, drastic compounds, and other nostrums familiar to this class of patients. When the power of one form of cathartic was exhausted, she would resort to another more active. Declares that she customarily takes four times the amount specified without obtaining satisfactory results. About the age of thirty-five, suffered greatly from piles, which she says were cured by a "course" of sulphur and tar. She was next troubled with indigestion, and her medical attendant advised her to substitute the use of the syringe for the usual purgation. For about a year this advice

was followed, with apparently happy results, but in time this procedure also began to fail, although the syringe was most faithfully employed. At the time of our consultation she is suffering from dyspepsia and great pelvic discomfort. She endeavors to evacuate the bowels twice a week, which is accomplished by the combined use of cathartics and enemas. Before retiring, she swallows a large portion of some cathartic, and injects into the rectum about half a pint of warm water and olive oil, which is retained, if possible, until morning, when she again employs a full rectal enema, which she is often obliged to repeat, and, after all this, is obliged to strain violently to rid the bowel of the partially dissolved scybalæ. After the operation, the parts are swollen and congested, and she is forced to lie down on account of the dragging, throbbing, and aching through the pelvis. The rectum is lax and capacious, with its mucosa swollen and prolapsed; uterus and vaginal walls are engorged and also somewhat prolapsed, secreting a profuse catarrhal discharge. All of these abnormities are directly dependant upon the difficulties connected with the inertia of the bowel, the origin of all her suffering being unquestionably the ill-advised use of cathartics.

This may justly be regarded as a severe case, but is by no means an exceptional one, for it is unfortunately a familiar picture to the eye of the physician. The majority of women who are the victims of habitual constipation and addicted to expulsive efforts, experience to some degree dragging lumbar pains and pelvic discomfort following the act of defecation. Many of them confess that during the efforts the womb is pushed down and presents itself at the vaginal entrance. It is evident that the prolonged repetition of this pernicious custom must eventually result in prolapsions and other unfortunate complications of the female generative organs. From careful observation I am convinced that the greater proportion of dislocations of these organs is directly traceable to evil habits connected with constipation, and consequently it is utterly impossible to achieve success in the management of these anomalies until we correctly deal with the prime causative factor.

NERVOUS DERANGEMENTS.

To the reflecting physician frequent opportunities are offered for observing the sympathy existing between the cerebral and visceral organs, which relationship is most clearly pronounced in nervous or delicate organizations.

As an illustration of this sympathetic affinity we may cite the phenomena of palpitation, dysuria, or diarrhœa, consequent upon the relaxing influence of fright or mental trepidation; also that of indigestion and hepatic derangements from mental worry or excitement. Conversely, the mental faculties may be greatly modified by reflections from physical conditions, as for instance, after a full meal a sensation of drowsiness and mental lassitude will supervene. It is physologically well known that the nerve fluid or vital force can be diverted and concentrated upon one predominating process. If the digestive process be for the time in the ascendant, and there is no special demand for mental labor, the brain lends its nerve force and becomes temporarily dormant; if, on the contrary, mental activity be dominant, then the supreme nerve ganglia commands the entire nerve force. Since the well-being of the human economy depends so manifestly upon the working in harmony of the mental and physical faculties, it can readily be conceived in what manner certain influences, directly destroying this equilibrium, might result in the perversion of the intestinal function, and thus engender costiveness. It would be impossible to describe in detail the manifold phases involved in this principle.

We frequently hear business and literary men assert that their bowels are always disordered when undergoing some severe mental ordeal, while, on the other hand, if surrounded by pleasant circumstances no difficulty of that nature is experienced. There is still another, a nervously introspective class, who seem possessed with an all-absorbing idea of the vital importance of daily defecation, and are so deeply impressed with the thought of the direful consequences that must inevitably follow a failure in this respect, that through sheer over-anxiety the process is perverted. Naturally such individuals soon become the victims of drugging and rectal enemas, and furnish our most inveterate cases.

Acute mental emotion, fright, worry, etc., very commonly induce temporary diarrhœa; when, however, the morbid excitement has been of so long duration that the nervous system has thereby become more or less unhinged, we have, as a rule, a very intractable form of intestinal inertia. This phenomenon is especially marked when the affliction is followed by a state of protacted despondency, and constant apprehension of impending evil.

The remarkable sympathy existing between the cerebral and intestinal organs is displayed in the semi-paralyzed state so prevalent among those patients afflicted with melancholia or aberration of the mind. Lack of space forbids fuller consideration of this most important phase of our subject, but we cannot too strongly emphasize the significance of psychical phenomena, for therein will often be found the key for the solution of the perplexing problem.

In the foregoing pages the nature and prominent sources of constipation have been briefly considered, and we recognize numerous minor phases not referred to, but these will be found to hinge largely upon the salient points advanced.

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Before entering upon the discussion of the management of constipation, we will make a passing comment upon the morbid physical perversion which may be provoked by the prolonged retention of alvine matter within the bowel. The physical expressions arising from habitual costiveness are both approximate and remote. To the local disturbances already alluded to, we may add those arising from the accumulation of scybalæ along the bowel, the presence of which may prove a source of considerable topical irritation in the form of colic, neuralgia of the ovaries, catarrh of the intestine or uterus, and irritability of the bladder. Beside these local complications there is a train of more remote expressions engendered, of which due cognizance must be taken. Throughout the entire gastro-intestinal apparatus there exists a manifest solidarity of action, so that anything disturbing or interfering with the function of the lower portion is reflected throughout the whole alimental organs. If the peristalsis of the colon be torpid, the ileum will act sluggishly and the gastric function also becomes enervated. When those organs through which the portal veins ramify, perform their office imperfectly, the disturbance reacts upon the liver, causing serious derangement of that complex organ. Furthermore, physiology teaches the existence of a remarkable degree of fellowship between the excretories, so that when the function of one is suspended the others extend their aid to that which is disabled, and in this way vicarious depuration is established. Let us note how this is displayed in connection with our subject. We have already referred to the twofold function of the colon, viz., excretion and absorption; therefore, when the disintegrated alvine matter is willfully or unavoidably retained within the bowel far beyond the healthful period, nature attempts to rid the system of these excrementa through other channels, therefore, a part of the putrid matter is absorbed, metamorphosed, enters into the circulation, and finds its exit by other emunctories, viz., the kidneys, skin and lungs. The laws of nature cannot be thwarted with impunity, and in this case the penalty is just, severe, and appropriate. As might naturally be inferred, the entering into the circulation of excrementitious matter constitutes a form of blood poisoning. As an expression of this blood deterioration, the extremities become cold and clammy, with oftimes a sensation of numbness and formication. The cerebral ganglia are also affected, as shown in forgetfulness, difficulty in concentration of the thoughts, drowsiness, melancholy, headache, etc. The sleep is disturbed by evil dreams, and a sensation of extreme weariness prevails on awakening. The eyes grow muddy and lustreless, with dark rings underneath. The skin becomes pallid and sallow, and is subject to eruptions, often emitting an offensive smell. The disgusting characteristic odor of the exhaled breath proclaims unmistakably the part which the lungs have to play in this vicarious elimination of transformed alvine excreta.

Beside the general depreciation, the organs directly involved in the supplemental depuration soon become impaired and in time seriously diseased.

Any one would naturally suppose that this obnoxious physical state would be oftener found in the lower classes, but, remarkable as it may seem, experience warrants the assertion that it is by no means exceptional among those who, judging from their surroundings and exalted sentiments, would indignantly resent any imputation of willful neglect in the matter of physical purity.

A TRUTH CONCERNING ALCOHOL.

BY ELDRIDGE C. PRICE, M. D., BALTIMORE, MD.

FEW men *wish* a thing true, that are not already more than half convinced that it *is* true.

In an address delivered in Boston, on the third of December, 1882, Dr. W. B. Carpenter said: "The alcohol taken into the body is not burned at all, but it is expelled from it as a substance foreign to its constitution."

In Dr. Thomas J. May's "Therapeutic Forces," I find the following: "Liebig was the first one to suggest the idea that alcohol, when introduced into the animal economy, is oxidized, and its force, which is thus liberated, is applied to the muscular and nervous work; but subsequently Messrs. Lallemand, Perrin and Duray, by a series of pseudo-scientific experiments, presumed to have proven that alcohol, when administered internally, was eliminated, *in toto*, by the different emunctories of the body." Obviously, if this were true, alcohol could not perform the function of a force-producing substance, and in order to prove the truth or falsity of this assertion of the French chemists, Drs. Anstie, Dupré, and others, made special researches on this point, and all of them arrived at the unanimous conclusion, that only a very small amount, if any, of the whole quantity of ingested alcohol is thrown off by the body. But I invite special attention to the investigations of Dr. Anstie, which are given below in a condensed form, and which are noted for their great accuracy and decisiveness.

His experiments were conducted somewhat as follows: Two drachms of brandy, containing 47.73 grains of absolute alcohol were given to a dog, the animal then being inclosed in an air-tight box—a modified Pettenkofer air-chamber—in which all the exhalations and excretions can be retained, and their contents estimated. After remaining there for four

hours, it was found that the whole amount of absolute alcohol thrown of by the body was 0.128 grain. This experiment was repeated, and the same result obtained. Another dog received one ounce of brandy daily, for ten days, which is equal to 190.92 grains of absolute alcohol, and on the tenth day he was placed in the same box, and kept there for five hours and a quarter, during which time the whole amount of absolute alcohol eliminated was 0.21 grain. On the eleventh day, two hours after receiving half a drachm of brandy, he was killed and cut up into small fragments, none more than an inch in length, which, together with the blood, was placed in a secure stone jar, already containing eight parts of distilled water. The mixture was frequently agitated, and in about two hours and a half it was found on estimation that only 23.66 grains of absolute alcohol remained.

Commenting on these experiments, Dr. Anstie uses the following terse language: "It must be remembered, moreover, that this figure ought probably to be much reduced, as it really stands for the whole of the substances in the body which were capable on oxidation of yielding acetic acid. From Dr. Dupré's previous researches, it would seem probable that the amount of such substances, not being ingested alcohol, was considerable. But taking the whole as ingested alcohol, 23.66 grains is, of course, a perfectly trivial residuum to be found in the animal's body after ten days' allowance of 190.92 grains absolute alcohol, of which 95.46 grains had been taken not two hours before death. Add to this fact that the total alcohol eliminated on the tenth day of brandy diet was only 1.13 grain absolute alcohol, and it must, I think, be plain to any candid reader that the dog did, on each day, dispose by other means than by elimination of very nearly the whole of his portion of 190.92 grains absolute alcohol."

The evidence, indeed, which is afforded by those experiments on dogs, appears to me overwhelming; and even did it stand quite alone, I do not see how its force could be evaded.

The experiments on the dog A show that 47.73 grains of alcohol can be disposed of by a little terrier within eight hours, with only the elimination of one-fifth of a grain of unchanged alcohol by all channels together. The experiments on the dog B show that a terrier of less than ten pounds' weight could take, with comparative impunity, nearly 2,000 grains of absolute alcohol in ten days; that on the last day of the regimen he only eliminated, by all channels, 1.13 grain of alcohol; and that on his being killed (two hours after swallowing 95.1 grains of absolute alcohol), only 23.66 grains were recovered from his whole body, and all its contents elaborately treated so as to provide against material loss during the examination. These experiments certainly furnish us with final and conclusive demonstrations, as regards dogs, of the correctness of Dr. Dupré's arguments against the possibility of material *accumulation* of alcohol in the body. Had such accumulation occurred, nothing could possibly have prevented its becoming apparent on analysis of the body of the dog who had been brandy drinking to such a large extent for ten days together. Remember that the daily portion of this animal was equivalent (reckoning in proportion to weight) to 14 ounces of brandy per diem for an adult man of average growth!

Now the above experiments prove to us, in the most decided manner, that the animal body is capable of consuming alcohol, and, according to the calculations of Dr. Anstie, the human organism can destroy about 600 grains of it; and, if this amount is not oxidized, and the force which is liberated in the operation not appropriated to the performance of vital functions, then we have not a shadow of right to believe that fat, butter and oil are force-giving substances to the body; for we have no such decisive experimental proof on record to show that they are destroyed in the body like alcohol, yet, from their effects, which are analogous to those of alcohol, no sane mind can question the fact that they undergo chemical changes in the body, and confer motor energy on it. This is almost self-evident, for no substance can undergo extensive oxidation in the body without contributing some force to the maintenance of its functions. Again, alcohol is so closely related to the above substances, both in chemical composition and in point of combustibility, standing midway, as Dr. Pavy says, between the hydrocarbons and carbohydrates, that it is astonishing, indeed, that its force-producing power has ever been doubted since it was first suggested by Liebig.

Dr. Carpenter—with his friend Dr. Richardson—has undoubtedly been of great service to the cause of temperance, and we do not doubt that the reading public has, on the whole, profited by his teachings; but, most unfortunately, Dr. Carpenter has misstated a fact, and a demonstrable fact of such vital importance that we are not only surprised, but feel solicitous for public confidence in many truths that have been taught by this venerable benefactor, in the popular reaction that must follow when this, his primary postulate, is generally known to be false.

HERNIA.—ITS PHYSIOLOGICAL FACTOR AND MECHANISM.

By Geo. H. Taylor, M. D., New York.

All forms and degrees of Hernia are wholly dependent on clearly defined and perfectly intelligible causes. The affection exists potentially in cer-

tain faulty physiological factors. These, therefore, are the legitimate objects of remedial attention. To bestow supreme care on the extruded viscera, appears to withdraw attention from those primary and essential conditions whereby the affection becomes possible, whose continuance maintains the protrusion, and whose correction, of necessity, removes it. The supply of mechanical opposition to the local object prevents the remedial treatment legitimately due, and perpetuates the hernia indefinitely.

The visceral gravitation on the one hand, and the insufficiency of the hernial tissues on the other, are entirely amenable to the control of the physiological mechanism, whenever this is correctly understood. The vito-mechanism is, therefore, the *neglected factor*, whose absence vitiates the ordinary apprehension of the affection, and renders the mechanical method deceptive and nugatory. The vito-mechanical is the only factor capable of assuming complete control of the causes of the affection, and of affording radical, unequivocal, and permanent relief.

The physiological factor is, indeed, identical with the mechanism of the vital system in health. It includes all contributions and accessories to the maintenance of the working mechanism of the living organism. It not only includes the tissues subject to infraction or rupture, but also the connections, sources and dependencies of these tissues. It not only regards the weight of the abdominal contents, but the causes of its excess at the hernial region, and the reason for the morbid consequences. In short, the introduction of the physiological factor relegates the affection from the category of dead to that of living matter, and entirely changes the base of therapeutic indications. It is no longer an independent, self-produced and self-subsistent entity, but a special issue of defective physiology. This recognition leads to the discovery of the actual faults, and dictates the method for removing these, which replace those misdirected endeavors which have been over-demonstrated as fruitless.

These statements regarding the supremacy of the physiological factor of hernia may be conceded in a general way, for health is only the product of unembarassed physiological action, which, of course, excludes hernia. But after the accident has happened, and there is actual protrusion, their applicability may not be so clear. There are then the added complications of a ruptured wall, and the displacement by extrusion of a portion of the contents of the abdominal cavity. These incidents do not, however, in any wise exclude physiological principles, nor do they call for the introduction of any new or extraneous principles or procedures. These complications only emphasize the damaging effect of precedent neglect, and the pressing necessity for the correction of the physiological faults, which have now assumed unequivocal and tangible shape. The remedy is still included within the resources of physiology, which resources only require to be specialized to become addressed to the local and extreme require ments. The curative results are complete, permanent, and satisfactory, in proportion as the causes are practically understood and corrected.

MECHANICO-PHYSIOLOGY OF SUSTENATION.

To comprehend adequately the therapeutic effects of the application of principles included within the resources of physiology, that is, physiological mechanics, it will be necessary to call to mind in considerable detail the mechanical properties of the organism, as represented in its anatomical constitution and its dynamic powers as shown in its acting, moving parts or segments, when these are in their natural and healthy relations. We may then, and only then, determine the actual location and the special nature of the defects of which hernia is the outgrowth and culmination. We may then also understand the reason for the fact demonstrable in practice, that physiological rectification at defective points is abundantly capable of removing not only the weakness, but the mechanical consequences arising therefrom; and we shall understand more clearly than is otherwise possible, that hernia is but an instance of the self-evident principle that effects are impossible, as well as inconceivable, in the absence of the causes on which they depend.

The first object of inquiry is the physical structure and mechanism of the trunk. For the present purpose the trunk is to be regarded as an irregular ovoid enclosure, whose different parts have the following special relations to its contents.

The inferior boundary of the trunk is rendered very solid and rigid by containing the largest, heaviest bones of the whole anatomical frame, the pelvic bones. The great firmness of these bones affords a practically inextensible base. Rising from the pelvis is the spinal column, which serves as the posterior boundary of the cavity of the trunk, and, as relates to the cavity, is also practically inextensible. Surmounting the spine is the great dome formed by the ribs joined in front to the breast bone. The ribs are so united to the vertebræ and to the breast bone as to offer considerable resistance with elasticity, as opposed to any force, physiological, or otherwise, which may be brought to bear upon them. This compound mechanical structure, which, uniting resisting with extensory qualities, will be shown to be a most important mechanical provision in its relation to hernia and its radical cure. Below the ribs is the abdominal wall, composed largely of muscular substance, so disposed as to allow of contraction as a whole,

in any part, and in all directions. This wall serves as an extremely extensible elastic diaphragm, instantly conforming to the variable bulk of the interior contents.

The muscles entering into the composition of the abdominal wall, in health, readily respond to the incitations which cause the rhythmic motions of respiration. They are also equally under influences proceeding from the will, like other voluntary muscles. The abdominal wall completes the enclosure formed by the trunk, and is its only portion that does not offer the mechanical resistance or rigidity to external mechanical impressions.

We may doubtless be justified in forming a judgment of the uses of an object from its structural adaptations; and this is a reigning principle in physiology as in mechanics. Were an inanimate mechanism presented for examination, whose general description was found to agree with that above given of the mechanical construction of the trunk walls, there would be no difficulty in deciding as to its design and purpose. Indeed, very similar pieces of mechanism are among the most common objects around us. One would not need to be told that such a mechanical arrangement is adapted to speedy and complete adjustment to variable bulk of contents; that the contained space might, with equal facility, accomodate more or less of what it is intended to hold, within a wide range of extensibility, according to the demand that might be made upon such space.

Even the uninstructed are able at sight to acquire a tolerably correct idea as to how these changes of capacity, rhythmic and voluntary, occur. The mobile and elastic portions, which form the anterior wall of the abdomen, are charged with the function of increasing and diminishing the space they enclose. This is effected by the alternate expansion and contraction of this portion of the enclosure. The action is rhythmic, and corresponds exactly with the needs of the general system under the circumstances of the moment. The elastic and contractile portions of the trunk walls perform the work, while the rigid portions direct and guide the effect.

Several familiar mechanical contrivances illustrate very well the mechanical process here brought to notice. The bellows and its modifications, and the syringe, whether elastic or with a piston, are good examples, if we consider the movable parts of these machines as the source of the power and motion, while the rigid portions direct the efforts of the force disengaged. In either case, power supplied to one portion of the instrument urges the contents of the reservoir toward and from its outlet, situated at an extreme remote part of the instrument. The whole of the contained mass, whether fluid or semi-fluid, is subjected to oscillating motions, with the effect of changing the amount of space, and therefore of the contents, at that end which communicates freely with the exterior.

The animal body is a similar mechanism. When in a quiescent state it is practically rigid, except the anterior wall of the abdomen. The motions of respiration are then effected chiefly by the spontaneous contractions and dilations of this most elastic portion of the body. The return to the air of 30 cubic inches of that contained in one end of the enclosure is effected chiefly by the corresponding diminution of the cubic capacity of the whole body, produced at the opposite end of the cavity, by the contraction of its walls, just as fluid is urged from the pipe of a syringe, by giving upward motion to the piston, which forms the boundary of the opposite end of the reservoir.

When we look at an animal quietly reposing, we witness much the same mechanical process. Respiration is a rhythmic motion, affording alternate variations of the cubic capacity of the space enclosed by the exterior walls, the dilation and contraction corresponding exactly to the volume of air respired. And while in repose, the action occurs in those portions which afford the greatest mechanical facility and have the least resistance to overcome. It is, therefore, effected by parts unencumbered by bone, cartilage, or resistance of any sort; by the contraction of the muscles of the extremely flexible and contractile abdominal walls.

The fact that the abdominal wall applies its powerful energy at the side of the movable contents of the body, and not immediately below the weight, is of no real consequence as to the effect. The change of capacity afforded by its action is the important consideration; the contents necessarily move in the direction of egress and in no other. Besides, this relation is more apparent than real. For when we consider the oblique position of the wings of the pelvic bones, and the relations of the inferior portion of the wall of the abdomen to these bones, we shall see that the adjustment gives an upward direction to any force exerted.

While the mechanical organic process of respiration, as above detailed, is shown by the slightest attention to the process as it exists in animals, and therefore by necessary inference, in the healthy of the human species, there are additional reasons afforded by the animal constitution why this should be the case.

The mechanical construction and the physiological needs of the digestive organs require the rhythmic waves accompanying respiration to extend also through their mass, for very similar reasons, and for additional ones. Digestion and respiration are co-equal factors in providing the energies of which the organism is the instrument; their co-equal

participation is essential; and the organic motor process, being under the same primary incentive, should equally affect both factors, because any defect in either one is a deficiency of both.

For, whatever be the form of the energy evolved by the vital system, the contributions to such development from the two participating sources are in equal ratio, and therefore should be amenable to the same causes of physiological incitation. This is just what the mechanical rhythm, extending equally through the organs concerned in respiration and absorption of digested products, would supply, and what no other condition could.

The mechanical form of the digestive organs, absorption from which introduces nutritive support to the system at large, is adapted to the same end. The much convoluted tube, with many infoldings and much exterior surface, is adapted to the gliding motion of segments and parts upon each other which is necessarily produced by the extension of rhythmic motion through them. This gliding of parts is practically found essential to both their absorptive and circulatory functions.

The location and structure of the principal channels through which the products of digestion find their way into the circulation, afford conclusive evidence of the constant need, by the digestive organs, of rhythmic motion. These channels are the portal vein, which conveys its stream, against gravity, to the liver, and the chyle duct, whose contents also flows, in opposition to gravitation, to a still more elevated point of debouchement. The remarkable anatomical point is that these vessels possess no valves, and appear to require none. It is, therefore, our almost certain inference that the force which urges forward their contents must be largely derived from causes operating from without the walls of these important conduits of nutritive supplies. The rhythmic motions which clearly exist in all healthy animals, produce constant alternations of pressure upon the contents of these vessels, quite similar in kind and effect to that of the heart and arteries, which impels the arterial blood. The same mechanical purpose is doubtless affected in these more obscure conduits of fluid, by a perfectly analogous cause.

The long category of obstinate local diseases of the contents of the pelvis, connected with imperfect circulation of the blood, and especially with imperfect drainage from defect of the portal circulation, is evidence of the deficiency, or the adequate extension of the reciprocating rhythmic motion due to the inferior contents of the cavity of the trunk. The rapid disappearance of these diseases, when this motion is restored, is abundant confirmation of the same fact.

THE INTERMEDIATE REGION OF RHYTHM.

The extreme flexibility and mobility of the anterior wall of the abdomen is peculiarly adapted to secure the amount of variation of air space in the lungs required for ordinary respiration in repose. When, however, repose is disturbed, and the volitions become expressed in action, the case becomes entirely changed by the new physiological considerations which enter into it. Under these circumstances, the parts immediately above those enclosing the short ribs, forming the upper part of the abdomen and the lower portion of the chest, are pressed into service and participate in the expansion, often to an extreme degree. This intermediary portion is quite capable of effecting the whole of the expansion and contraction necessary for full respiration. By intelligent and judicious management of conditions, this part of the trunk may be caused to expand to an extreme degree, without specially increasing the respiratory effort, that is, the inhalation and discharge of air by the lungs.

In this case the mechanical change is wrought in the abdominal walls, equivalent to that which, otherwise, must occur in the chest; the air space formed by the mechanical changes of shape of the body is exterior.

The disposition of the muscles of the chest, anteriorly and posteriorly, is such as to produce the greatest amount of effect at the intermediary region of the body, with the least expenditure of muscular power. When, therefore, the need by the organism for air-change arises beyond the ordinary working power of the abdominal wall, it offers resistance, and by mechanical law, other parts offering equal resistance, participate in the rhythmic action.

The mechanico-physiological and the mechanical variations of which the rhythmic actions of the body are capable, and the consequences flowing from these, in repose, in full activity, under normal incentives, and under those devised by art for specific therapeutic purposes, with all the varying degrees and rates of expenditure of vital energy, cannot be too frequently or too strongly insisted on. It is the rhythmic motions consecutive with respiration of healthy animals and men which maintains nutritive activity, and therefore muscular strength and resisting power in those parts of the organism by which this mechanical work is chiefly effected, namely, the abdominal walls, and especially the mechanical connection of these with the pelvic bones, herein denominated the hernial region.

The normal increase of this rhythm, which is necessitated by any well directed work or voluntary expenditure of power, inevitably produces these direct consequences; the air space produced in the intermediary region increases the extent of the vertical, surging motion of the whole mass contained in the

cavity of the body, extending quite down to the hernial tissues, and the hernial segments of the abdominal contents. This vertical oscillatory motion lifts the whole mass toward the space in which the air change occurs. The extent of the lift corresponds to the increase of space formed by the widening and the upward motion of the base of the dome formed by the chest walls. The effect is not only wholly to antagonize gravitation, but to superinduce muscular action of extreme degree in the hernial tissues themselves, whereby their resisting power is developed to their due extent.

The extent of the change of respiratory capacity, of which the trunk is susceptible, the greater portion of which inheres in this intermediary portion, is surprising to those who have given no attention to the subject. The 20 to 30 cubic inches of air, changed at each ordinary respiratory act, is usually effected, as before stated, without perceptible movement of the intermediary region. The motion, however, rises to this region under moderate exertion, so as to cause a difference of an inch in circumference at the short ribs. Under those circumstances, the cubic inches of changed air rises to double or more than double that previously required. Suitable efforts directed to this end causes an increase of circumference to two, three and even more inches. Standard works of physiology cite authorities stating that under extreme effort the amount of air changed by the respiratory act may rise as high as 250 cubic inches.

The radical therapeutics of hernia is intimately connected with this intermediary trunk region, and the facility and certainty with which its capacity may be instantly changed from one extreme to the opposite. A moderate expansion of the lungs will introduce, say 100 cubic inches of air. This involves an increase of circumference of the body at the intermediary region of probably two or more inches. This action proves the capability of the chest and auxiliary muscles to expand the chest, by raising the anterior ends of the ribs; it proves the existance of the capacity for the cubic increase, and that the change is capable of being immediately produced.

Now, the therapeutics of hernia simply puts in action the mechanical condition, omitting the vito-physiological. In other words, the *change of capacity with the absence of demand for use of air.* The greatly-expanded intermediary region becomes suddenly filled from below, and *not* from above; with the abdominal contents, and *not* with air. The diaphragm, the exterior abdominal wall, and the whole of the included mass, are therefore urged upward with a degree of force, if desirable, approaching violence, which no ordinary resistance at the seat of hernia can withstand.

In recapitulation, it should be borne in mind that:

1. Normal respiration in repose, engages chiefly the most unresisting and elastic portions of the walls of the trunk; all parts engaging therein in inverse proportion to the resistance offered by the tissues and the gravitation of the contained mass. In this way the advantages conferred by mechanical motion become equally available to the respiratory and the digestive organs, in which these advantages are equally due; no other conditions are compatable with health.

In this way the normal contractile and resisting power are maintained in the hernial tissues, which effectually oppose the existence of hernia, and in no other way can complete prophylaxis be secured.

2. Whenever considerable expenditures of vital energy are demanded, by either muscles or nerves, or both, the chest walls proportionately participate in the rhythmic movements of respiration. This participation rises to higher degrees by increased expenditure, developing, in central portions of the trunk, an intermediary capacity and power of surprising extent, available for therapeutic ends.

The mechanical effect of the operation of this power and action is that of antagonizing gravitation, even of *lyting* the whole of the digestive mass, and subjecting it to vertical oscillation; a condition entirely opposed to that of lying heavily upon the inert hernial tissues. The abdominal contents are, with the aid contributed from the overarching dome of the chest, in a state of oscillatory suspension; an effect extending even through the contents of the pelvis. Ordinarily, the degree of suspension is in proportion to the engagement of the volitions in muscular acts, without reference to the direction these acts assume. In health, the hernial tissues are always indirectly influenced by every considerable voluntary action, because they contract and follow up the mass in its vertical oscillation; a co-operation essential to their integrity of function and substance.

3. The causes of hernia, which, of course, must be reached and corrected by any cure that is worthy the name, may now be properly estimated. Hernial protrusion indicates failure of the hernial tissues, and this is an unfailing indication of precedent failure of function. Vital function and vital substance are inseparably conjoined. It indicates insufficiency, often utter absence, of the participation of the lower portion of the abdomen in the rhythm of respiration. It further, usually, indicates some perversion of the normal style of respiration, in which some portions of the exterior of the body engages in the act to an inordinate degree, as compensation for the deficiency at the hernial region. These causes allow the hernial tissue to fall into disentude and deterioration. They fail, therefore, to offer resistance, when it becomes necessary to do so; and to preserve the integrity of their

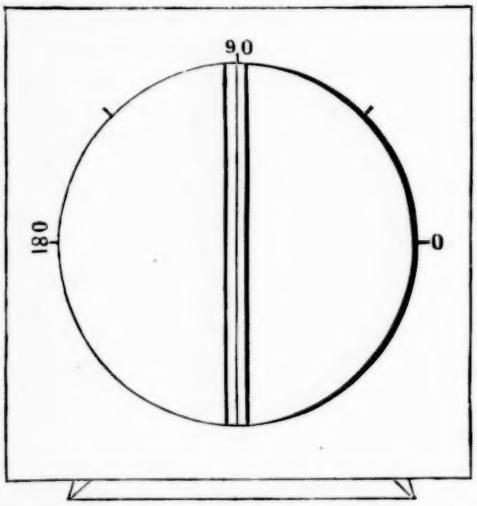
substance, in opposition to even weak mechanical forces. The principles of cure, therefore, culminate in the practical application of the principles of physiology, so elementary as to be easily understood and adjusted by the invalid to his own needs.

CLINIQUE.

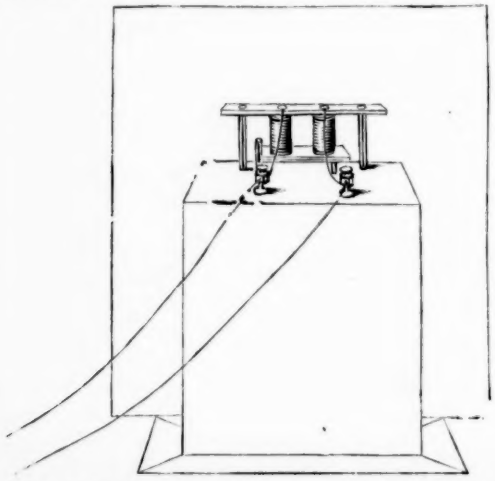
ELECTRO-ASTIGMATIC APPARATUS.

BY CHAS. C. BOYLE, M. D., O. ET A. CHIR.

THE accompanying cuts represent a front and back view of a new apparatus for discovering astigmatism.



The idea of the revolving disc with the three lines is not new; but instead of standing at the other end of the room from your patient and turning it by



hand, it is made to revolve by means of clockwork and electricity, controlled by a push button, which permits of your being by the side of the patient and governing the revolutions of the disc by means of the button. It consists of clockwork, with the pendulum attachment removed, set up on a piece of lead plate, resting on rubber, so as to deaden the noise of the revolving wheels. This is enclosed in a box with a hole in the front of it for the winding stem to project through. On this side of the box is fastened a square piece of pasteboard, with a circle drawn on it, the upper half of which is marked off in degrees. The disc, whose diameter is the same as that of the circle, is fastened to a shaft which is put on the winding stem. On top of the box, or it can be placed inside, is the magnet and pin, which controls the movement of the works. The pin is attached to a small metal plate, under the magnet, having at one end a hinge, so as to permit of its being lifted or dropped by the magnet, according as you break or connect the circuit; the other end of the pin rests between the cogs of the fly wheel, and, when lifted out of position, sets the wheels free and the disc revolves. As the disc goes round it will bring the lines in the different meridians, and the patient will very quickly tell you if they are clearer and more distinct in some positions than in others. These instruments are made by Waite & Bartlett, 208 East 23d Street. Price $10.00.

BRONCHITIS ACUTA—ACUTE BRONCHIAL CATARRH —COUGH.

BY F. G. OEHME, M. D., TOMPKINSVILLE, STATEN ISLAND, N. Y.

(*Continued from page 327, Vol. XI.*)

13. *Arnica.—Dry*, short, *shaking* cough, expectoration bloody or difficult to loosen. Sometimes in paroxysm, especially nights, but not waking the patient. Worse in the morning after rising. Frequently in cases of children, when they cry just before or while coughing.

14. *Chamomilla.*—Dry cough, worse nights; cough during sleep. Suffocative shortness of breath, as if from constriction of the throat. Irritability, excitability of the nervous system, therefore especially with females and children.

15. *Cina.*—Dry, hacking, spasmodic cough, often with starting up suddenly and gagging as if something was in the throat. The children may become rigid or stiff before and during the attacks; after the paroxysm a gurgling noise in the throat, which goes down into the stomach. Urine often copious and frequent.

16. *Conium.*—Incessant, dry hacking. *Periodic*, dry cough, caused by tickling in the throat or under the breastbone; also by lying down, *speaking* or *laughing;* sometimes worse nights or present only at night. Hoarseness.

17. *Cuprum.*—Dry, nervous, *spasmodic,* exhausting cough *with attacks of suffocation* and vomiting, worse nights; convulsions, spasm of the glottis, difficult breathing. Rattling in the chest between the attacks. According to Bœnninghausen, cough better from drinking cold water, which makes the veratrum-cough worse.

18. *Drosera.*—Periodic fits of exhausting coughing, resembling whooping cough, with comparatively free intervals, during which there is only a short hacking. The attacks are produced by tickling in the throat, and only a little phlegm is thrown up at the last. The cough seems to come from the depth of the chest, apparently from the abdomen, and convulses the muscles of the chest and abdomen. Worse nights, and in lying. Cough at night from tickling in the throat. Cough after measles.

19. *Hyoscyamus.*—Dry, spasmodic, hacking cough from tickling in the windpipe, worse nights and in lying, disappearing on sitting up. Hoarseness.

20. *Kali Bichromicum.—Rough, hoarse voice.* Throat painful. *Hawking of much thick, tenacious mucus in the morning.* Dry, persistent cough from much tickling in the throat or at the bifurcation. Attacks of violent coughing of some duration, with *difficult* expectoration of *tough, viscid mucus, drawing out in long strings.* Loose sounding cough, with rattling in the chest. During cough pain from sternum to back. Difficult breathing, *wheezing.* Pain and sensation of pressure in the chest. Cough worse when *exposing the body* while undressing, in the morning on waking, *after the least mouthful of food or drink,* deep inspiration; better after getting warm in bed.

21. *Rumex crispus* diminishes the secretion, but increases eminently the sensibility of the mucous membrane of the larynx and trachea, therefore the violence and persistency of the cough do not stand in any proportion to the pathological changes (Nux vom.) Hoarseness, aphony after taking cold. *Dry,* hoarse, *barking* cough, like croup. From irritation in the throat *most violent fits of coughing* of two or three hours duration on lying down. *Dry, incessant, fatiguing cough from continued tickling and irritation in the throat* and back of the breastbone, produced or aggravated by pressure on the throat, by deep or fast inhalations, talking, eating, *by inhaling cold air, on lying down,* in the evening after retiring, and the latter part of the night. Sensation of soreness and rawness in the larynx and behind the sternum. Much tough mucus in the larynx, with a constant desire to hawk and raise it, but without relief; worse at night. Itching, pain and stitches in the chest. This remedy is, perhaps, not sufficiently known.

22. *Senega.*—Accumulation of mucus in the bronchi and rattling. Cough or long fits of coughing, with expectoration of very tough mucus, which is raised *with great difficulty;* it even sticks to the mouth. The chest feels full and oppressed, forcing the patient to take a long breath. It seems to give relief to *draw the shoulders backward and throw the chest forward.* In torpid condition of the mucous membrane of the larynx and bronchi, as with old or phlegmatic people, in emphysema, asthma, bronchiectasia, pneumonia, and tuberculosis. A much neglected remedy.

23. *Sulphur.*—As among the symptoms of sulph., *all* kinds of cough—dry and loose—and of expectorations are found, we have to be guided more by the nature and course of the disease, and especially by the constitution of the patient and other circumstances and conditions. Voice rough and hoarse, especially mornings; aphony, scraping, irritation and dryness in the throat. Dry cough in the evening on lying down, or waking up the patient at night. Cough in the morning. Cough in paroxysm. Loose cough. Expectoration thick, mucous, purulent, greenish, bloody, sweetish, rattling, oppession, pain and stitches in the chest.

24. *Veratrum album.*—The cough symptoms are similar to those of *ipecac,* but more intense, with this difference however, that the spastic character prevails with the former, the catarrhal with the latter. *Veratr.* stands therefore between *ipecac* on one side and *bellad.* and *drosera* on the other. The irritation to cough is at the bifurcation or *low down in the lungs,* and there is *a sensation of constriction in the throat and chest.* Cough resembling whooping cough with whistling inspiration and suffocation. Violent, dry, hollow, exhausting, spasmodic, shaking cough, night and day, with involuntary emissions of urine. Cough, worse nights, with congestion to the head. Cough, with yellow expectoration. Chest and abdomen sore from violent coughing. Whistling and rattling in the chest, but no expectoration. Livid face, coldness of the skin and limbs, cold perspiration, weak irregular pulse, excessive weakness, desire for cold drink, which, however, makes the cough worse.

(*To be continued*).

Carbolic Acid Poisoning.—Dr. A. M. Pelton says, in the *Southern Practitioner:* By the following method, abscesses, boils, felons, etc., can be opened with little or no pain:—Sharpen to a point a stick about six inches in length. Dip the point into liquefied *carbolic acid,* and apply to the points chosen for the opening. After a moment's delay, cut the skin with a knife; then take a little of the *acid* on the point of the stick and apply to the incision with a gentle rotary motion. By frequent applications of the *acid,* and a gentle rotary motion of the stick persistently applied, an opening can be made to the required depth. The *carbolic acid* produces first anesthesia, then death to the parts to which it is applied in the foregoing manner.

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TYNDALL'S THEORY OF EXPLAINING THE IMMUNITY OBTAINED AGAINST A SECOND ATTACK OF CONTAGIOUS DISEASE.—Professor Tyndall in the *Pall Mall Gazette*, discusses the above subject in the following ingenious manner: One of the most extraordinary and unaccountable experiences in medicine was the immunity secured by a single attack of a communicable disease against future attacks of the same kind. Small-pox, typhoid or scarlatina, for example, was found, as a general rule, to occur only once in the lifetime of the individual, the successful passage through the disorder apparently rendering the body invulnerable. Reasoning from analogy, I have ventured to express the opinion that the rarity of second attacks of communicable diseases was due to the removal from the system, by the first parasitic crop, of some ingredient necessary to the growth and propagation of the parasite.

The cultivation of micro-organisms, which is now everywhere carried on, enables us to realize the smallness of the changes which in many cases suffice to convert a highly nutritious liquid into one incapable of supporting microscopic life. Various important essays bearing upon this subject have been recently published in the *Revue Scientifique*. M. Bouley there draws attention to the results obtained by M. Raulin in the cultivation of a microscopic plant named aspergillus niger. The omission of potash from Raulin's liquid suffices to make the product fall to 1-25 of the amount collected when potash is present. The addition of an infinitesimal amount of a substance inimical to the life of a plant is attended with still more striking results. For example, one part in 1,600,000 of nitrate of silver added to the liquid entirely stops the growth of the plant. And now we come to the important application of this fact which has been indicated by M. Duclaux. Supposing the aspergillus to be a human parasite—a living contagium—capable of self-multiplication in the human blood, and of so altering the constitution of that liquid as to produce death; then, the introduction into the blood of a man weighing sixty kilograms of five milligrams of the nitrate of silver, would ensure, if not the total effacement of this contagium, at all events the neutralization of its power to destroy life. The index finger here points out to us the direction which physiological experiment is likely to take in the future. In anticipation of the assaults of infectious organisms, the experimenter will try to introduce into the body substances which, though small in amount, shall so affect the blood and tissues as to render them unfit for the development of the contagium. And subsequent to the assault of the parasite he will seek to introduce substances which shall effectually stop its multiplication. There are the strongest grounds for the hope that in the case of infectious diseases generally such protective substance will be found.

SURE CURE FOR CORNS.—A. C., who has tried it, is authority for the following: Take one-fourth cup strong vinegar; crumb finely into it some bread; let stand half an hour, or until it softens into a good poultice; then apply on retiring at night. In the morning the soreness will be gone, and the corn can be picked out. If the corn is a very obstinate one it may require two or more applications to effect a cure.—*Druggists' Circular.*

EXTIRPATION OF GOITRE BY MEANS OF THE ELASTIC LIGATURE.—An Italian journal reports several cases in which enlargements of the thyroid body have been successfully removed by means of the elastic ligature. An incision is made in the skin in which the ligature is placed, the wound being disinfected, and the ligature tightened, daily.

THE PREVENTION OF PEUERPERAL INFECTION.—I use the same treatment in private practice, with rich and poor, and it gives the same satisfaction. Ladies who have had children before find the dressing very pleasant, and delight in the absence of odor, not only of *carbolic acid*, but of the lochial discharge.

I carry powders of 15 grains of *corrosive sublimate* in my satchel, in order to be sure to have them on hand. After confinement I prescribe powders with 7½ grains. I dissolve the 15 grains in a quart of hot water, stirring with a wooden spoon. This forms a solution of about 1 to 1,000, which, according to the circumstances, is mixed with an equal amount of hot or cold water, thus forming a solution of 1 to 2,000, which is the strength used for all purposes. I dispense with the disinfection of the abdomen, thighs and buttocks, deemed necessary in the hospital, but inject invaribly a quart into the vagina, placing the patient on a bed-pan. If the latter utensil were not obtainable, it might easily be replaced by some contrivance which will present itself to the mind of the practitioner. In tedious cases I repeat this injection according to circumstances, at least once in three hours, in which case it serves both as a disinfectant for the vagina and as a stimulant for the uterus. When the presenting part appears, I apply to the vulva a piece of lint dipped in the solution, except, of course, in precipitate labor. After the birth of the child and the removal of the afterbirth I wash the patient with the solution, apply a binder, cover the genitals and anus with a piece of lint wrung out of the solution, eight inches long, and folded so as to form four layers three inches wide, which is exactly the width of the space between the genito-femoral sulci in most women; place outside the lint a piece of oiled-silk which is an inch longer and broader, put a large pad of carbolized cotton on top of the oiled-silk, and fasten the whole tightly to the binder. For the binder and this piece between the legs I prefer canton flannel, but any clean muslin or linen will do. The principle in this bandage is to have an absorbent wrung out of the solution of *bichloride of mercury* in immediate contact with the genitals, a water-proof substance outside, in order to prevent the *bichloride* from being absorbed by the external parts of the dressing, and a dry and soft absorbent outside the water-proof material, in order to take up the discharge which exceptionally escapes from the inner compress, to form a first filter for the air, and to keep the inner compress in contact with the skin. Where strict economy is necessary, the lint may be replaced by muslin or cotton batting, the oiled-silk by gutta-percha tissue, and the carbolized cotton by common cotton or any clean rags. If the perineum has been torn, it is stitched up before applying the bandage, but all other wounds are left entirely to themselves under the protection of the dressing. Three times a day the genitals and surrounding parts are washed with the solution, and the dressing is renewed. For this purpose the person in charge of the patient dissolves one of the 7½ grain powders in a quart of warm water. No trained nurse is required, the procedure being so simple that the husband or any female friend can perform it.

The simplicity of this treatment is apparent; its safety for patients, nurses and doctors is demonstrated by the total absence of any kind of untoward accidents during the five months it has been in use; and its efficacy is proved by the radical change in the condition of the patients in a hospital that abounds in unfavorable hygienic features, and in which disease used to be permanent and death frequent. — DR. H. J. GARRIGUES, in *New York Medical Journal*, March 1, 1884.

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The New York Medical Times.

A MONTHLY JOURNAL

OF

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EDITORS:

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WM. B. WOOD, M.D., *Business Manager.*

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"*A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and* OUGHT *to be the* ONLY ACKNOWLEDGED RIGHT *of an individual to the exercise and honors of his profession.*"—Code of Medical Ethics, Amer. Med. Ass., Art. iv., Sec. 1.

Our practice is *not* "based on an exclusive dogma, to the *rejection* of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry."

A NEW VOLUME.

THE enlarged pages and entire new dress in which the MEDICAL TIMES commences its twelfth volume will be a sufficient apology for the few days' delay in its publication this month. We think our readers will agree with us that the change in type, and the increased width in the columns, are marked improvements. Authors will find it very easy, with the present wide columns and large type, to issue their articles in reprints with but very little expense. The increase in the size of the page enables us to give the same amount of matter as before in a much more readable form. The policy of the TIMES in the past outlines that of the future. As journalists we have no enemies to punish and no friends to reward. We shall endeavor to make our journal the mouthpiece of ripe thought, of scientific research, and a storehouse of practical suggestions and well-established facts gathered from the rich field of medical literature. We earnestly solicit contributions from careful observers and close thinkers, irrespective of school or sect. There are hosts of men scattered all over the country who are daily bringing out important facts which would be of material help to the profession if put in readable form. "Help one another" has almost the strength of a divine command, and if the friends of progress and of truth will each contribute his mite, the columns of the TIMES will ever be open to receive them, and carry its rich and precious freight to every State and Territory in the Union, aiding in the relief of suffering and the saving of human life. The editors ask for no pecuniary remuneration for their services, every dollar they receive being expended in enriching the journal and making it more worthy of support. An increased clientage will enable us to pay liberally for scientific articles, and thereby enhance the value of the journal. Will our friends everywhere help us in the good work?

MATERIA MEDICA REVISION.

THE necessity of a revised materia medica is becoming every day more apparent. It is difficult to utilize the immense wealth of our materia medica in its present loose and unorganized condition, simply from the lack of any logical plan of incorporating the facts brought out by careful provings and other scientific helps, so as to form a clear and intelligent picture of the real conditions in which drugs are indicated. Under proper management, this matter could be so simplified that a work could be prepared, intelligent, truthful, and which would meet the wants and secure the approval of thinking men of all schools. To do this, if the physiological action of the drug is clearly given, we can eliminate much of minute symptomatology which now encumbers the pages, and which is so confusing to the mind, so unreliable and worse than worthless for any practical work. With a correct understanding of the physiological action of a drug, embodying, as it would, what changes were produced, forming pathological pictures of the diseased condition, the student familiar with the dual action of drugs would reach their indications with more clearness and certainty than by wading through a host of minute symptoms, many of them imaginary, and a large portion common to a hundred other drugs.

All schools agree that the only correct basis of a proper understanding of the action of drugs, is by proving them on the healthy system, either of human beings or the higher order of animal life. Pathological changes can be carefully noted in animals in all cases, and in human beings the symptoms observed, not in one person only but corresponding in several; picture with almost unerring certainty pathological changes and nervous disturbances. From all this it is comparatively easy to deduce the specific action of a drug and its affinity for certain tissues.

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Knowing the action of a drug, the physician must judge for himself whether he needs its primary or secondary action, and the strength required to produce the desired result. A thousand minute symptoms common to any disturbance of the vital forces, which add nothing to the strength of the picture, but confuse and mislead, can wisely be omitted.

Subject to a rigid scrutiny, many drugs would be thrown out of the materia medica as either worthless, or with a specific action much better covered by drugs of a wider range. By thus dropping the comparatively useless, and winnowing out the chaff from the rest, our materia medica would lose its present elephantine proportions, and in its more compact form present increased strength and vitality.

To produce this result a combination of talent is required under competent scientific and executive management.

First. The pathological changes produced by each drug upon animal tissues should be carefully examined in dissections and vivisections. The secretions and excretions should be minutely noted and analyzed. In these investigations the utmost skill of the microscopist, the pathologist and the analytical chemist would be brought into full and active use.

Second. A provers' union would be required of intelligent, pains-taking individuals, to test each drug on the healthy organism. The habits of life, the diet, surroundings and temperaments of each person should be distinctly stated, and the drug to be proved should be of uniform strength and purity. In other words, the general directions given by Hahnemann in proving drugs should be intelligently carried out. When the mass of facts thus obtained are brought together and submitted to the careful scrutiny of an able scientific committee, it would be comparatively easy to so arrange them as to bring out in clear relief the specific action of the drug, and the indications for its use. If some such organization for practical work could be formed, including earnest men of all schools, working in harmony for a single purpose—that of obtaining the specific action of drugs upon living tissues and vital forces—it would be of far more benefit to human life than the war of codes to decide professional fellowship, and the loose, impracticable and unreliable way in which many of the investigations are carried on in the line of materia medica and therapeutics.

Dr. Camp, the chairman of the Bureau of Materia Medica in Minnesota, recommends a supervisory board, composed of men eminent in scholarship and science, who would formulate a plan of work, direct and supervise the various departments, and bring the material thus obtained together into an intelligent and compact form. With the co-operation of the various State societies he thinks a working force could be obtained from which might be obtained provings thoroughly reliable. The provings would form only a small part of the real work to be performed. The rest, however, could be entrusted to men eminent in special departments of science.

THE MEDICAL TIMES will gladly further any plan for the production of a materia medica which will present in a clear, compact and reliable form the wealth of facts now so hard to obtain, and which will fully represent the present spirit of thought and scientific inquiry. A work like this is the great want of the medical world, and we trust, at no distant day, the enterprise of some of our publishers, or the combined action of scientists in our profession, will give it to the public.

NEW DOCTORS.

Bellevue Hospital Medical College, at its last commencement, graduated 149 students.

The Homœopathic Medical College conferred the degree of Doctor of Medicine, at its recent commencement at Chickering Hall, upon a class of 53 graduates. The Alumni Association had its annual dinner at the Hotel Brunswick. About 200 members and their guests participating in the feast.

The Medical Department of the University of New York, at its last commencement, conferred degrees upon 164 graduates The Hon. Chauncey M. Depew, in his address, among other good things, said: "The Lord deliver me in mine extremity from a doctor so absorbed in his own greatness or vanity, that he cannot see me; the doctor who has a hobby and rides it rough-shod over my aching bones, or the doctor whose breath is steeped in tobacco and whisky."

THE PUBLIC HEALTH.

THE records of the Health Department show that the sanitary condition of the city is steadily improving. The number of deaths reported since the first

of January is about 400 less than during the corresponding period of last year, and more than 2,000 less than in 1882. In January there were 2,615 deaths reported, in February 2,583, and thus far this month 2,413, a total of 7,611. Last year the figures were as follows: January, 2,818; February, 2,568; and twenty-six days in March, 2,665; a total of 8,051. In 1882 the record was: January, 3,498; February, 3,298; and twenty-six days in March, 2,886; a total of 9,682. In March, 1882, there were only five days on which the number of deaths was less than 100. Last year the deaths exceeded that figure on thirteen days, and this month there were only ten days when the number was more than 100. The record of contagious diseases shows a corresponding decrease. There was an epidemic of scarlet fever in 1882, and the figures for that year are abnormally large. There have been no deaths from smallpox since the first of May last year. The deaths from contagious diseases, reported this year, are as follows: Measles, 91; scarlet fever, 161; diphtheria, 223; typhus fever, 4; typhoid fever, 55. Last year, during a similar period, the record was: Measles, 165; scarlet fever, 213; diphtheria, 274; typhoid fever, 57; smallpox, 6; and in 1882 the record was: measles, 362; scarlet fever, 108; diphtheria, 523; typhus fever, 14; typhoid fever, 57; smallpox, 163.

The decrease in the death rate this year is due, in great measure, to the weather of the last three months. It is true that we have had very little bright, clear weather, but we have had none of those sudden, violent changes from heat to cold, or from cold to heat, which are almost sure to cause diseases of the respiratory organs. The steady decrease in the death rate is due, in great part, to the improved sanitary condition of the city. The streets, especially in the densely populated tenement districts, have been kept clean, the ashes and garbage have not been permitted to accumulate, and this improved condition of affairs has had a perceptible effect upon the health.

The appropriation for the corps of summer sanitary inspectors is sufficient to keep as large a force at work as was employed last year. Drs. Woolsey Johnson and Charles F. Chandler will be delegates to the International Health Congress, which will meet in London in June and July next, in connection with the International Health Exhibition to be opened on May 1st. This Congress will discuss all questions relating to sanitary science, the treatment of sick and injured persons in ambulances and hospitals, and other important questions. The exhibition will include articles of food, drink, clothing, plans of drainage and ventilation, modern education, and kindred industry.

BUREAU OF MATERIA MEDICA REPORT.*

The chairman of this Bureau is an old member of the National Society, who believes in thorough and practical work. When put in charge, as in this case, he allows no veneration for authorities, and no fear of frowning conservatism, to keep him from an earnest search for the weak places and deficiencies in what the profession has to depend upon in combat with disease.

The special work taken in hand last year was the condensation and reissue of our materia medica. In his introduction the chairman, Dr. Dake, speaks of the need of such a sifting, and how it may be effected.

He would leave out such drugs as have had no proper proving, and such symptoms as may not be clearly attributable to the drugs they have been accredited to.

Speaking of drug effects, he says: "It is well known to every thoughtful student of materia medica, that each drug must primarily impress a certain tissue and disturb the functions of a certain organ, and that, when not prevented by some other morbific or pathogenetic agency, the character of its impression must be the same in all cases. The inception and progress of the drug disease, undisturbed, must be essentially the same in all persons; and the symptoms indicating its point of attack, its line of march, and its results, cannot differ widely in the members of the human family. *Upon this uniformity of drug effect depends the whole fabric of homœopathy.*

"If the symptoms recorded in our materia medica do not apply to the generality of mankind, if they are to represent personal peculiarities and not uniform drug effects, the practical application of *similia* becomes a task more difficult and less satisfactory than out and out empiricism. But the uniformity of drug effect stands, and all that is necessary to make *similia* universally applicable, in its own wide sphere, is to have drug diseases truthfully displayed in a work on materia medica.

* American Institute of Homœopathy at Niagara Falls, June, 1883.

"I know the difficulties are many, in the making of such a display, without the day-books of Hahnemann and the early provers, and with the material furnished by desultory and careless drug experimentation; but, whatever the value of existing material, it must be worth as much in the formation of a condensed materia medica as it possibly can be in its present unwieldy shape."

Of the members of the bureau, Dr. Hayward, of Liverpool, seems to be the only one who doubts the feasibility of condensation. But we do not understand him to be opposed to such a curtailing of the materia medica as would come from a proper sifting of the material now incorporated by compilers of our dry symptomatology, such as mentioned in the introductory of the chairman.

Drs. Sherman, Woodward, Copperthwaite, Wesselhoeft, Owens, Farrington, Allen and Arndt, of this country, and Dr. Cigliano, of Italy, each indicates his chosen method for the abridgement and reissue of the materia medica.

There seems to be enough unity of purpose and similarity of methods to warrant a successful effort in behalf of revision.

It is especially gratifying to see that the British Homœopathic Society has raised an able committee, with Dr. Pope as chairman and Dr. Hughes as Secretary, to take in hand the revision and purification of our materia medica.

And it is well that the American Institute, upon suggestion of Dr. Dake, instructed its bureau to correspond and co-operate with the British committee.

The American bureau is made up of teachers and writers on materia medica, men who have devoted much time and thought to the matters in hand. We shall look anxiously for their report of progress at Deer Park.

PROGRESS IN MEDICINE.

THERE is no subject at the present time of more importance to those who desire progress in medicine, than a careful revision of materia medica.

Diagnosis and prognosis and posology are of little consequence to the therapeutist, if the pathogenesy of the drugs he is to employ is so defective as to be unreliable.

A conglomeration of symptoms gathered from the "four winds," with no more sifting than has been done by some compilers of materia medica—wheat and chaff without discrimination—does not satisfy the minds of the great majority in the profession, any more than it does the demand of medical art.

The cry is incessant the world over for something more certain and reliable in the line of materia medica, and this can only be satisfied by such revision as will detect the fraudulent whereever it exists.

We are glad to learn that our old friend Dr. J. P. Dake, of Nashville, Tenn., as Chairman of the Bureau of Materia Medica in the American Institute, has prepared a plan for such work in connection with his bureau, and any report which bears his imprint can be depended upon.

But we have no idea that the efforts of men like Dr. Dake will avail much in organizations which are liable at any moment to be revolutionized by sentimental strategists who happen to be upon the surface, and who will decline to do honest work unless their egotistical selves are to be the chief gainers thereby.

Then again, there is such a difference of opinion as to the kind of work to be done. As long as individuals will insist upon their own views being carried out, or else they will not work, very little can be accomplished.

The plan which will give the best results is one which will unite all workers in harmonious action. It is evident that for such a purpose the individual must be lost in a scheme which will make the force a unit. For practical purposes the revision of materia medica must go on as it is going on now, where each individual worker carries out his pet scheme, or else all must agree to insist upon nothing that does not receive the sanction of each individual of the corps of workers.

There is enough that we can all agree to to occupy the time and attention of any body of co-laborers, of whatever capacity or dimension. Discuss the so-called "potency" question as much as we will, and we shall fail to convince some as to its truth; and, on the other hand, oppose it as hard as we can, and others will be of the same opinion still. So it will be as to the class of symptoms to be retained, the plan of arrangement, etc., etc.

The only suggestion we can offer is that the work be confined to such subjects as all are agreed upon.

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We have been not a little interested in the enthusiastic manner in which Dr. A. A. Camp, Chairman of the Materia Medica Bureau in the Minnesota Society, has commenced his work. The circular letter which Dr. Camp has so kindly sent us, deserves credit for suggestiveness, and we hope it may awaken an interest that will afford results. So far as we can see, Dr. Camp's propositions can best be acted upon by Dr. Dake's committee. Dr. Camp, in his circular letter, begs for suggestions as to the mode to be pursued, from the profession at large, and we hope and trust that he may be gratified with a variety of sound views, from which he may evolve plans which will result in great accomplishments in the direction indicated. Dr. Camp would make an excellent addition to Dr. Dake's committee. Here he could prosecute his work to the utmost, and the committee would obtain an able and conscientious co-laborer.

Any who are interested in the work may receive a copy of the circular letter referred to by addressing Dr. A. A. Camp, Minneapolis, Minnesota.

BIBLIOGRAPHICAL.

INTRACRANIAL DISEASES, INFLAMMATORY, ORGANIC, AND SYMPTOMATIC. By Charles Porter Hart, M. D. Philadelphia, F. E. Boericke, Hahnemann Publishing House, 1884.

The present work on intercranial diseases, embracing inflammatory, organic, and symptomatic affections of the brain and its membranes, though complete in itself, is, in reality, a supplement to the author's excellent work on "Diseases of the Nervous System." The work furnishes, in a moderate compass, the leading views of those most advanced in cerebral pathology and therapeutics. Part I. is devoted to matters pertaining to regional diagnosis, and includes functions of the cerebrum and of the cerebral ganglia; functions of the bulb, cerebral lesion; lesions of the basal ganglia, the cerebellum, and of the cerebro-spinal isthmus. Part II. treats anæmia of the brain, cerebral hyperamia, and hemorrhage; apoplexy, thrombosis, embolism, softening; encephalitis, hypertrophy, atrophy, scelerosis, athetosis, facial atrophy, myxœdemia, tumors, syphilis, and the various forms of meningeal troubles. Symptomatic affections such as cephalgia, vertigo, insomnia, coma, sunstroke, and concussion of the brain, receive careful attention. The author has given us a thoroughly practical work, not the least value of which is its short, concise and clear descriptions of diseases and their remedies.

PATHOLOGY AND TREATMENT OF GONORRHŒA. By J. L. Milton. New York: William Wood & Co., 1884.

The fifth edition of this work, which the publisher now present to the profession, has been much of it rewritten, old matter condensed, and important new matter introduced, especially on the treatment of gleet, on gonorrhœa in the female, on orchitis and gonorrhœal rheumatism. The sections on gonorrhœal affections of the heart and pericardium, the peritoneum and pleura, dura-mater and sheath of the spinal cord, gonorrhœal pyemia, pyelitis are entirely new. There is scarcely a disease in which there has been less advancement in treatment during the last generation than gonorrhœa, notwithstanding scarcely a month passes in which some new perfectly sure specific is not presented, specific perhaps in the hands of the writer, but failing in the hands of the majority of cases when used by any one else. The writer goes over these numerous specifics and finds the majority of them, when subjected to rigid scrutiny, comparatively worthless. One great value of the book is, that the doctrines laid down have been pretty severely tested, and nothing has been recommended but what has stood the test of experience and special observation. Physicians, after a time, become familiar with the fact that there is no disease requiring a more thorough individualization than gonorrhœa. Even with the most careful study of conditions and temperaments the disease is not by any means always easy to manage, and the cases are very rare when a few days are sufficient in well marked gonorrhœa to produce a cure.

NORTH AMERICAN REVIEW FOR APRIL.—Judge J. A. Jameson discusses the question, "Shall Our Civilization be Preserved?" pointing out the means that are at hand for withstanding the various agencies, physical, moral and intellectual, which threaten to overturn our existing civil and social institutions. The Rev. Dr. Philip Schaff gives a sketch of the "Development of Religious Freedom." Dr. Felix L. Oswald writes of "Changes in the Climate of North America," with special reference to the increasing frequency of disastrous floods. Prof. C. A. Eggert offers "A Plea for Modern Languages" in the higher education; and Julian Hawthorne discourses of "Literature for Children." Finally there is a discussion of "Recent Criticisms of the Bible," by the Rev. Dr. R. Heber Newton and the Rev. A. G. Mortimer.

THE CENTURY MAGAZINE.—Five profusely illustrated articles and a biographical paper with two portraits lend unusual pictorial interest to the April number. The frontispiece is a portrait of the late Sidney Lanier at the age of fifteen, and with the text of Dr. William Hayes Ward's essay on "Sidney Lanier, Poet," is also printed a portrait of the poet in mature age. In the illustrated articles is an interesting account, by E. V. Smalley, of the memories which cluster about "The White House." Foremost among the unillustrated papers, in point of general interest, is George Alfred Townsend's account of "How Wilkes Booth Crossed the Potomac." His information was derived from the man who gave succor to the fugitive and his companion Harold, and who provided them with the boat which took them across. Between the disappearance of Booth in the scrub pines of lower Maryland and his appearance in Virginia, where he was shot, there has always been a historical gap which this paper fills with a very full, and, it is believed, authentic narrative.

John Burroughs replies to Matthew Arnold's recent lecture on Emerson, and makes a strong argument to show that Emerson is entitled to a higher place than the English critic has accorded him. At the same time, he considers the bearings of Arnold's Estimate of Carlyle, the title of the essay being "Arnold on Emerson and Carlyle."

CORRESPONDENCE.

OUR LONDON LETTER.

MESSRS. EDITORS:—After a month of preliminary talk, Parliament appears to have settled down to work at last, and we may soon expect to see progress with the medical bill. Your readers are, doubtless, already familiar with its provisions. The effect of them will be to make one standard of examination compulsory on all candidates for qualification. Those who wish to take other degrees or qualifications will be able to do so if they wish to distinguish themselves; and, no doubt, something more than a mere qualification will be demanded from all aspirants for the higher posts in the profession. But all alike will have to pass through the "one gate;" the "one-portal system" is to be established. This will at once give the death-blow to a swarm of "colleges" and "halls" whose qualifications have long been the *dernier ressort* of the "chronic" student.

Dr. Burdon Sanderson is to have his laboratory at Oxford. A very strong opposition was raised in convocation against the grant of £10,000 for this purpose, but it was not successful. The editor and part author of the notorious "Handbook of the Physiological Laboratory" is to have in Oxford an establishment wherein to carry out his own amiable directions. But, though the grant was voted, the discussion revealed a growing opposition to vivisection which scientific men would do well to ponder. A few years ago no such opposition would have been possible; there is a growing unwillingness abroad to trust men of science to decide on the morality of their own practices.

Dr. Burdon Sanderson has a great reputation for his scientific achievements, but it is not easy to see on what the reputation rests. There are no great improvements in the doctor's art connected with his name—unless a small book on the sphygmograph, written in so obscure a style that neither he nor anyone else can understand it, may be counted as such.

Germs are the order of the day. The pursuits of the cholera-germ waxes hot. Koch is in India with his pack of assistants, and at last reports that he has, in all probability, run his small deer to earth—or, rather, to a water-tank. He has not yet been able to give cholera to any of his animals, but he if still hopeful. Surgeon-General Hunter has finished his labors in Egypt and has presented his report—a very bulky document—containing absolutely no addition to our knowledge. For this service he has been knighted.

In the midst of all the talk about germs and sanitation, and how cholera may be given, it is refreshing to come across one book which tells us how it may be *cured*. This Dr. Salzer, of Calcutta, has just given to us. It is a volume of lectures full of practical wisdom—the first of well-utilized experience and sound thought. Dr. Salzer admirably defines the place of *camphor* in cholera treatment. He shows that it is chiefly indicated in *cholera sicca*, and in those cases, also, where there is vomiting and purging, if the arterial and muscular spasm is a well-marked feature. In diarrhœic cholera, in a state or collapse, it has no place.

Dr. Salzer points out that Hahnemann was not aware of the homœopathicity of *camphor* to cholera when he recommends it, and that those who have written since him have not been able to show it from Hahnemann's provings; the fact being that it is only in *poisonings* by large doses of *camphor* that the likeness of its action to cholera-poison is seen. Dr. Salzer distrusts the commonly-used preparations of *camphor* on account of the quantity of spirit they contain, which, he thinks, interferes with its effect. He prefers a trituration

Among other medicines he praises *hydrocyanic acid*—or better still, *kali cyanidum*—in the spasmodic variety of cholera *Veratrum*, *arsenic* and *copper* are also fully considered. Speaking of *arsenic*, Dr. Salzer gives this warning to the majority:—

"*Arsenic* has been strongly recommended in cholera," says Dr. Ringer, "*especially in its later stages, when there is much collapse.*" Dr. Ringer is evidently no fool; for he has looked into homœopathic literature and knows all about it. He knows even by whom "it has been strongly recommended in cholera." But he dares not say, for fear—yes, for fear he might be cried down as a homœopath, and—lose caste!

"The worst is yet to be said. For when these men go and prescribe homœopathically indicated drugs, or some fanciful allopathic principle, or no principle at all; then they simply kill now and then a patient whom they could easily have cured, had they only had the courage to know what they are doing; and they allow, further, many a man to die, unkilled, whom they might easily have saved, had they only been acting in accordance with what they claim to be,—men belonging to an honorable and learned profession.

"Cholera-collapse is one of the most precarious states a man can ever be in; and *arsenic* is one of the most poisonous agents of our *materia medica*. Under such circumstances it does not require much over-dosing to give a patient the last *coup-de-grace*. A little aggravation in such cases means almost sure death.

"I have told you, gentlemen, in my previous lecture, how to counteract, dynamically, an eventual (accidental?) over-dose of *camphor*. I can say nothing as to how to counteract a criminal over-dose of *arsenic*."

The book is full of valuable matter. It is published by Berigny & Co., 12 Lal Bazaar, Calcutta.

Yours fraternally, JOHN H. CLARKE, M.D.

15 St. George's Terrace, Gloucester Road, London, S. W., *Feb.* 28, 1884.

NEW YORK HOMŒOPATHIC MEDICAL COLLEGE.

MESSRS. EDITORS:—Among the events of March, which would be of interest to homœopathic physicians at large, was the annual commencement exercises of the New York Homœopathic Medical College, which were held in Chickering Hall, Thursday evening, March 13th. On the evening preceding (Wednesday) the Hahnemannian Society of the college held its 12th annual commencement in the college ampitheatre, corner Twenty-third street and Third avenue. The programme was pleasing and was well conducted throughout. The exercises included an address by George M. Dillow, M.D., of this city, the prognosis by F. E. Wilcox, of the graduating class, the "send off," by F. S. Fulton, of class of '85, the conferring of diplomas upon the graduates, and an address by J. A. McKenzie, the president of the society. The music, instrumental and vocal, was furnished by the college glee club and talent from the college classes. Professor William Tod Helmuth presented a prize of fifty dollars in gold to N. Robinson, of Brooklyn, a member of the middle class, for the finest prepared and mounted dissection of the uterus and its appendages. Professor F. E. Doughty also presented Charles F. Smith, of the graduating class, with a valuable work on genito-urinary troubles, for the best report of his year's clinics in that subject. The exercises were completed by 11 o'clock, and the large audience which more than filled the amphitheatre slowly found its way to "terra firma" down the long flights of stairs, which the class of '84, now the alumni

of the Hahnemannian Society, had ascended for the last time together.

Chickering Hall was filled to overflowing on Thursday evening. The stage looked like a flower garden, so numerous were the bouquets and floral designs which were piled upo its front. The faculty, twenty-nine in number, the trustee and censors, together with many distinguished invited guests, occupied seats on the platform. At 8 o'clock the graduating class, fifty-three in number, walked down the aisle and occupied the first three rows of chairs. The following are their names: C. F. Adams, A. B., W. S. Bigelow, J. M. Boal, Jr., J. E. Britton, G. W. Bulmer, C. E. Campbell, H. E. Carter, D. Coleman, C. Crisand, G. H. Doty, C. P. Elebash, H. G, Hanchett, O. S. Hardy, A. H. Hart, M.D., H. W. Hartwell, M.D., C. H. Helfrich, Jr., W. S. Hincks, J. R. Horner, M.D., C. C. Howard, J. E. Jaeckel, A. Kenney, H. J. Knapp, J. C. Knapp, E. E. Lewis, S. D. Low, M.D., J. F. McGuire, J. A. McKenzie, R. R. Martino, W. S. Miner, C. W. Moody, J. H. Moore, H. W. Nash, H. W. Paige, R. L. Pattee, H. J. Pierron, E. B. Potter, M.D., A. H. Rannefeld, D. N. Rây, L.S.A., J. A. Reed, B.S., W. E. Reed. F. H. Sage, H. D. Schenck, B.S., R. S. Simmons, C. F. Smith, F. W. Spoor, A. L. Talmage, C. E. Teets, C. L. Tisdale, M.D., J. A Vansant, A.B., J. A. Wheeler, F. E. Wilcox, F. B. Williams, F. M. Couch.

Professor T. F. Allen, Dean of the college, made the opening address, showing in his remarks the growth and progress of the college, its method of teaching and the branches taught. He also alluded in highly complimentary terms to work done and standing attained by the present class of graduates. Hon. Salem H. Wales, President of the Board of Trustees, conferred the diplomas upon the students, who came upon the stage in divisions of thirteen each, investing them with the degree of Doctor of Medicine, and accompanying the presentation with many words of wit and friendly advice. Professor F. E. Doughty, president of the faculty, then presented the prizes for the highest standing. The first, a complete office case of medicines, was awarded to Charles H. Helfrich, Jr. The second, a valuable collection of medical works, to Charles F. Smith. The "Wales Prize," a Helmuth pocket case, for the highest standing in middle and junior studies, was won by N. Robinson, of middle class. The address by Dr. William M. Taylor, of the Broadway Tabernacle, was full of cheer to the class, as well as sound counsel and advice. His theme was "Character." The valedictory, by W. S. Bigelow, was well worded and well delivered. The orchestra played many choice selections during the evening.

Immediately after the exercises the class repaired to the Hotel Brunswick, where the alumni dinner was given. A business meeting preceded the dinner, at which one hundred and thirty-six new members were admitted, including the new class. The following officers were elected for the ensuing year: *President*, Dr. Seldon H. Talcott; *Vice-Presidents*, Drs. Fiske, Buffum and Bridgan; *Secretaries*, Drs. Leal and Deady; *Treasurer*, Dr. J. R. Hoffman; *Executive Committee*, Drs. Norton, Deschere, Nott, Shelton, Moffatt, Simmons.

About three hundred sat down to the dinner after the business was over. It was beautifully prepared and served, and occupied the guests' attention until 4 o'clock, at which time the assemblage broke up, and each wended his way homeward.

The following toasts were offered by Dr. George S. Norton, and responded to as follows:

Hahnemann—Dr. G. S. Norton.
The College—Dr. T. F. Allen.
Theology—Rev. Wm. Lloyd.
Law—Ex-Governor Daniel Chamberlain, South Carolina.
Medicine—Dr. S. P. Burdick.
Old Graduates—Dr. W. M. L. Fiske.
Young Graduates—Dr. Charles F. Adams.
Medical Specialism—Judge D. C. Calvin.
Our Patients—Judge Cowing.
Woman in Medicine—Dr. J. W. Dowling.
Retiring President—Dr. Pratt.
Poem to Alumni—By Prof. Helmuth.

Respectfully, H. W. PAIGE.

TRANSLATIONS, GLEANINGS, ETC.

THE TREATMENT OF CHOLERA.*

BY L. SALZER, M.D., CALCUTTA.

* * * As to the general experience in this country with regard to the *camphor* treatment of cholera, it is, on the whole, I may say, about the same as it is in Europe and America. It is an excellent remedy in some cases; in some other cases it fails; it has been known to fail on a large scale in certain epidemics, and the disappointment thus caused resulted in an entire neglect of the drug in farther cases. In short, *camphor* played, and plays up to this day, the same rôle in our school as certain empirical remedies do in the ranks of the old school of medicine. I am not aware if there have ever been made experiments on a somewhat large scale, in this country, to treat all cases of cholera indiscriminately by *camphor*, from beginning to end. What I do know from my own experience, and from the experience of others, is this, that in the spasmodic variety of the disease, in the sense as I have explained it, the drug acts just as beneficially here, in the first stage, as it did in Europe. I can also say, from my own experience and that of others, that whenever the type of the variety is indicative of *camphor*, the drug will act well, even after purging and vomiting has set in. *Camphor*, or one of its analogues, when indicated, strongly deserves a fair trial, and should not be timidly abandoned after an unreasonably short time. And unless the choleraic evacuations are so prominent, that they by far outweigh all other symptoms, I can hardly see how we can benefit our patient better in the spasmodic variety, as I understand it, than by persevering with *camphor* or with some of its analogues. *Camphor*, in such cases of cholera, is just what *aconite* would be in the chill likely to lead to catarrhal inflammation when left alone. So long as the effects of the chill are not localized, there is, according to clinical experience, no drug so apt to cut short the coming mischief as *aconite;* but when the effects of the chill are once localized at a certain organ, *aconite* is out of place; a drug is called for, capable, by its physiological affinity to certain definite organs of the human body, to cope with the disorder at its very seat. Analogically speaking, we ought then to abandon *camphor*, at the first sign of some choleraic evacuations. Experience has taught us, however, that in the spasmodic variety, the therapeutic efficacy of *camphor* does go somewhat beyond the period of choleraic localization, and we should so much the more continue the use of this drug or of some of its analogues, within certain limits of time, as there is as yet, no drug known in our Materia Medica which, in its physiological action on the healthy, would run so far parallel with spasmodic cholera, as to produce, with something like certainty, spasms—arterial or muscular—followed by rice water discharges from mouth and rectum. It is no use getting impatient with your *camphor*, or with any other drug similar in its action to *camphor*, as long as the leading indications are all on its side, and not on the side of the drug in whose favor *camphor* is intended to be abandoned.

* Abstracts from the author's lectures.

If I were asked: Which are the drugs that may be expected to act similar to *camphor* in the first stage of spasmodic cholera? my answer would be: *Hydrocyanic acid*, and next to it, *arsenic*. I shall not trouble you, by reading to you a number of cases of poisoning by the acid named; you will find them recorded in works on materia medica and therapeutics at length. Sudden falling down with loss of consciousness, owing to excitation of the cerebral sympathetic, with its consequent sudden withdrawal or shutting out of arterial blood from the brain—is, in all cases of poisoning worthy of the name, the first effect of the drug's action; then follow epileptic convulsions; spasmodic breathing, tetanic cramps; on the whole, a second edition of what you have learned to recognize as *camphor* poisoning or spasmodic cholera.

It has been observed, and rightly observed, that the action of *hydrocyanic acid* is too evanescent and temporary in its character. I have myself often seen the flickering pulse of a cholera patient, in the state of collapse, gaining strength and apparent stability in a comparatively short time, say two or three minutes, from the administration of the drug; but the improvement lasts almost no longer than the time required to set it up. The dose would then be repeated or even increased; there would again be some improvement for two or three minutes, then the medicine would gradually lose its effect altogether. I am happy to say that, since I have substituted the *cyanide of potassium* for the acid, I have met with far better results in this respect. Many a case, that to all appearance gradually slipped out of my reach under the administration of the acid, was brought back to permanent improvement under the more steady influence of the *cyanide of potassium*. I carry with me the second and third decimal, and the third centesimal triturations, and begin, as a rule, treatment with a grain or two of the third decimal. Should you ever have the opportunity of trying *hydrocyanic acid* in the premonitory stage of spasmodic cholera, I would strongly advise you not to rest, in the case of failure, till you have substituted the *cyanide* in the place of the acid.

The next remedy I have to speak of in connection with the spasmodic variety of cholera is, the second analogue to *camphor*, or what I consider as such, *arsenicum album*. The similarity between the toxic effects of this drug and cholera is so well known, that in many places of this country where criminal poisoning frequently occurs, the police authorities have been induced to issue instructions to their subordinates, drawing their attention to the great similarity of *arsenic* poisoning to cholera, and instructing them, at the same time, how to differentiate between the two. The character of the evacuations is pointed to as one of the essential points of difference. In cholera they are colorless, odorless, rice-water like; in *arsenic* poisoning, they are fecal, and in the case that they are liquid, they are sure to be colored, greenish or blackish, and, in some cases, fœtid. When the subject could only be seen at a stage of collapse, a stage where, even when due to cholera, vomiting and purging are as often absent altogether, then a distinction is almost impossible, and almost nothing else remains, in the case of a fatal issue, than to have recourse to the chemical examiner. There is yet another distinction between *arsenic* poisoning and cholera, a distinction referring, like the previous one, to the stage preceding collapse; it is this, that in *arsenic* poisoning there is often febrile excitement at the beginning, while in cholera it is, as we know, all but the reverse. This distinction, however, does not hold good in all cases; for there are cases of *arsenic* poisoning, which begin with difficult respiration, coldness all over, spasms—in short with all the symptoms peculiar to the first stage of spasmodic cholera. This is not an invariable effect of *arsenic;* and its similarity to the first stage of spasmodic cholera can, therefore, not compare with that of *camphor* or of *hydrocyanic acid* to the same stage and variety. I should say, the spasmodic effects of the two drugs just mentioned are absolute; while those of *arsenic* are what Dr. Drysdale has called contingent, that is to say, drug-effects which, in order to be produced, would require a subject of special susceptibility.

Such contingent drug-effects are just as useful, for therapeutic purposes, as the absolute ones, provided you find a subject specifically susceptible to the drug's action. Suppose an individual to be particularly susceptible to such arsenical effects as I just before called contingent; suppose such an individual to be effected by spasmodic cholera; then you could not do better than to administer to him *arsenic* in homœopathic doses, in the same way as you would proceed, in the generality of cases, with *camphor*, or with *hydrocyanic acid*. More than that. In the case of such patients you might often, to your surprise, partially, or even totally, fail with your usual remedies, whose therapeutic action is derived from their absolute effects upon the healthy, and from the similarity of those absolute effects to spasmodic cholera. It would appear as if such patients could be relieved by nothing else but by that remedy with regard to which they have so prominent a degree of susceptibility. Homœopathy teaches us how to find out who are the patients particularly impressed by a certain drug, and consequently to whom it is most likely to be helpful. I shall come back, in the course of this lecture, upon the particular indications calling for the administration of *arsenic*, in preference to *camphor* or *hydrocyanic acid*, in the first stage of spasmodic cholera.

Great restlessness and anxiety, coupled, not merely with depression, but with utter prostration and hippocratic face, are strong indications for *arsenic*. A strange mixture of irritation and prostration is one of the great characteristics of our drug. Should the stomach particularly be the seat of such irritation, then *arsenic* is so much the more the remedy to be administered. Gastric irritation is, of course, present in all cases of cholera; but sometimes it forms the chief feature of the whole disorder, to such an extent that pathologists speak of a gastric variety of cholera. There is severe and almost continual retching without much vomiting; patient dreads taking water, though tormented by burning thirst, for fear it might not agree; drinks rather little at a time, but often, and what is drank is almost immediately thrown up; in such a contingency you can hardly do better than prescribe *arsenic*, either alone or in alternation with some other suitable drug, called for by the peculiar nature of the choleraic phenomena. If *arsenic* does nothing else but allay, be it even temporarily, the gastric irritation, so as to allow the absorption, on the part of the patient, of the remedy we consider to be indicated, then it has done enough for us. It has paved the way to proper treatment.

The characteristic arsenical evacuations may be summed up in the following: Stools small in quantity, frequent, dark or greenish colored, offensive; sharp pain in the lower part of the abdomen; burning in the rectum; great prostration of strength after each stool; aggravation at night; great thirst (especially at night); drinking but little at a time; restless (especially at night) and anxious. Should such a diarrhœa have been brought on by taking ices in hot summer, there would be one indication more for *arsenic*.

Local conditions may sometimes determine the choice of *arsenic;* thus a diarrhœa preceding cholera, brought on by dwelling in damp places, may, under tropic influences, assume an asthenic type, as above described, and require the exhibition of *arsenic*, and so may the cholera succeeding the diarrhœa,

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although choleraic evacuations in themselves by no means resemble those ordinarily occuring under toxic influence of the drug. Again, cholera breaking out at places where putrid animal matter has been allowed to infest the air, may require *arsenic*, regardless of the cholera type prevailing.

In *cuprum* poisoning—be it the metal, the acetate or the sulphate—inflammation of the mucous membrane of the alimentary canal is by far not specific, nor is it ever so severe, as in the case of *arsenic* poisoning.

Cuprum has all advantages on its side, with regard to its capacity of producing spasms of the voluntary muscles; even in the region of the alimentary canal, it is its spasmodic action which distinguishes its pathogenesis. The colic produced by *cuprum* partakes by far more of the nervous character than that produced by *arsenic*; so that, on the whole, it would appear that *cuprum* is more fit to cope with the spasmodic part of cholera than *arsenic*.

A close study of the physiological action of acute *cuprum* poisoning shows, however, that the general spasms occurring under its action are subsequent to the irritation set up in the alimentary canal. *Arsenic*, which is versatile in its toxic action, may exert a direct influence upon the medulla oblongata, and thereby reach the motor nervous system; while under the influence of acute *cuprum* poisoning there ensues no direct action on the medulla oblongata, not even of a contingent order; it invariably affects primarily the alimentary canal; all other nervous disorders arising under its toxic influence being secondary to that primary action.

We have seen how *camphor* primarily acts on the medulla oblongata, and thence extends its action through the pneumogastric nerves to the solar plexus. *Cuprum* seems to act exactly in the opposite direction. It takes its start from the hypogastric and solar plexus (fixed pain, or soreness on pressure in the epigastric region is characteristic of the drug) and reaches the medulla oblongata and the cerebral motor centres either through the pneumogastric nerves, or by means of some other connecting channels, known, as it is, that the sympathetic and cerebro-spinal systems interpenetrate, so to say, one another, each system transmitting its fibres into the trunks of the other. Bearing this in mind, we shall not wonder why we often fail with *cuprum*, in epileptiform spasms, which originate in the medulla oblongata.

All *cuprum* can reasonably be expected to do is, to check the cramps of the extremities, occurring or increasing during the evacuation period, inasmuch as these cramps originate from; or are intensified by, the irritation set up in the digestive canal, This is certainly not much. For, after all, those cramps are only partly owing to irritation of the alimentary canal. We must not forget that the loss of water by the cholera discharges, forms another element of nerve-irritation; the anœmia produced by impoverishment of the blood may again be another important element of nerve irritation; and with regard to both these factors *cuprum* must be pronounced impotent on homœopathic principle, at least as far as its direct influence is concerned. Indirectly, however, it can hardly be denied that *cuprum* is capable of exerting a calming influence on nerve irritation, as far as the same is caused by dessication. For it is not so much the loss of water which causes dessication of the nerve tissue, but the incapacity of the gastric mucous membrane of absorbing and assimilating outward supplies in the shape of drink, and thereby eventually compensating for the loss of the liquid portion of the blood. Now this incapacity is entirely owing to extreme gastric irritation; and the same being purely nervous, non-inflammatory, should certainly find in *cuprum* a far greater simile than in *arsenic*. *Arsenic* may, or may not, affect the gastric mucous membrane: but whenever it does so, it is irritation tending towards inflammation which is set up, while under the influence of *cuprum*, a purely nervous irritation is often produced.

Hiccough is another most troublesome attendant of cholera; it is a nervous disorder affecting the diaphragm and glottis at the same time, the one being, at regular short intervals, convulsively contracted, while the other closes suddenly. There are a good many drugs known to affect the respiratory muscles, including the diaphragm through the phrenic nerves; but there are very few which affect the glottis in a purely spasmodic, not inflammatory manner. *Cuprum* takes the lead among them, and so does it also in cases of hiccough; although *arsenic*, *veratrum album*, *lycopodium*, *cicuta virosa*, *physostigama* or *secale cornutum* may sometimes be required.

There is a common saying to the effect that prevention is better than cure; and *cuprum* and its undisputed prophylactic virtues against cholera, present us with a striking illustration of the truth of the above adage. *Cuprum* is certainly no specific cholera remedy, in the strict sence of the word; yet as a prophylactic it is efficient in its action to ward off the morbid invasion. May be, there are some hidden virtues in the copper metal which our physiological provings have hitherto failed to bring to light; may be, that *cuprum* has some specific physical or physiological action upon the condition under which cholera, and, indeed, some other epidemic diseases, are generated, spread, and are allowed to take effect upon men, whereby it becomes endowed with preventive virtues.

As to special indications for *cuprum* in cholera, it may be said that the drug is indicated by colic of a paroxysmal character; by soreness in the præcordial region with sensitiveness to touch, and lastly, by cramps in the extremities, beginning at the fingers and toes. Drinking cold water, it is said, relieves the vomiting; (in arsenic cases, cold water is immediately brought up) and the act of drinking, it is said, by others, is accompanied by a gurgling noise, which would indicate a state of paresis of the œsophagus. The chlorotic constitution, and, generally speaking, all such constitutions where disordered nutrition goes hand in hand with what is called nervosity, are, according to the late Dr. v. Grauvogl, especially apt to derive benefit from *cuprum*.

SECALE CORNUTUM.

Like all violent poisons, *secale* is twofold in its destructive effects upon the human organism; neurotic and hæmatic; and we can, in many cases, hardly tell which of the two elements is prevalent in the ensemble of its pharmacodynamism.

Ergot produces, besides, violent convulsions, accompanied by chilliness, and offers thus another feature of similarity to spasmodic cholera; for, as far as can be judged from its pathogenesis, the convulsions seem to be idiopathic, and not like those produced from *cuprum*—subsequent to gastro-intestinal irritation. On the other hand, *ergot* is not altogether without any disturbing influence upon the digestive organs; it produces, as we have seen, nausea, violent vomiting and pains in the stomach, and "sometimes they are attacked with violent diarrhœa." The nature of the evacuations is here again not choleraic; nevertheless, it could hardly be denied, that, on the whole, there is much of the *ergot* effects which strikingly resemble the main features of cholera.

We find in *secale cornutum* certain peculiarities which might lead us to administer the drug in certain particular cases of cholera, or rather, to certain particular cholera patients, with far greater advantage than we could ever expect to derive from any of the remedies previously analyzed by us. *Secale* has namely that peculiarity that it causes arterial contraction by acting directly on the arterial muscular coat, and not, as is the case in cholera, and with all the other drugs mentioned

before, by irritation of the sympathetic system of nerves. We know this from the experiments of Brown-Séquard, who has shown that division of the sympathetic does not materially affect the arterial contractions produced by *secale*. As to convulsions of the voluntary muscles arising under its influence, opinions seem still to be divided, in how far these phenomena are to be considered as purely neurotic. Some authors maintain that the convulsions are caused by cerebral and spinal anæmia, which anæmia is supposed to be brought on by the arterial contraction of the cerebral and spinal blood vessels; just as some authors attribute the choleraic spasm to impoverishment of the blood in consequence of the choleraic discharges. Anyhow, it is established beyond doubt that *secale* exerts an irritating influence upon the muscular coat of the blood vessels—arterial as well as venous, and, indeed, upon the unstriped muscular fibre throughout the body, exciting everywhere a persistent and long-lasting contraction.

We administer *secale* whenever *cuprum* is insufficient to cope with the spasms; when, moreover, the cramps the extremities are associated with collapse and cyanosis (which is not necessarily required for spasms calling for *cuprum*); when the spasms are so violent as to produce opisthotonos; when the extensors of the fingers and toes are spasmodically affected (in *cuprum* it is the flexors that are affected). Should we fail in such cases, with our remedy, then we should remember that the drug we use may be deteriorated, and we resort to *ergotin*, which we administer every half hour or every hour, according to the frequency and severity of the spasms.

Ricinus.—In *ricinus* we possess a remedy which is, in diarrhœic cholera, that what *camphor* was in the spasmodic variety.

A case is related by Bergius where only one seed produced symptoms of poisoning; namely, nausea, vomiting and diarrhœa.

After twenty seeds, gastro-enteritis and death, preceded by convulsions and general collapse.

A young and strong man, after eating two grains of the seeds from which the oil had been expressed, was seized with such violent vomiting that his life was in danger.

When I said before that *ricinus* may be called for in all the stages of genuine diarrhœic cholera, the stage of collapse included, I have only to add thereto the condition: provided vomiting or purging, or vomiting and purging, is still going on; and further, provided the remedy just mentioned had not been fairly tried in the preceding stages. If it has been, then it would be an act almost bordering on obstinacy to continue its application, in the face of palpable failure. Nor did I ever mean to say that *ricinus* should exclusively be used in diarrhœic cholera; we should never forget the important rôle nervous phenomena play in cholera, and how such phenomena may assume a pathological existence of their own, when once brought forth. What I mean is this, that we must look in the diarrhœic variety of cholera, so long as evacuations are in a more or less prominent manner present, to *ricinus* as the leading remedy, and to all the other remedies mentioned before, as so many auxiliaries; just as *ricinus* would have to be considered an auxiliary remedy in all other but the diarrhœic variety.

Let us not forget that *ricinus* and its analogue, *jatropha curcas*, are the only drugs known that have produced genuine rice-water like evacuations, whenever the virulence of their irritant action has not been great enough as to produce gastro-entrits with such alvine discharges as are usual under such conditions. *Ricinus* resembles, in this respect, *cuprum*, which has one action on the gastro-intestinal mucous membrane in large doses, and another one, in small doses. With *cuprum*, however, the absence of bile and the rice-water like appearance of the evacuations are exceptional, even where no inflammation is produced; while with *ricinus* they are the rule. Again, with *cuprum*, nervous symptoms, especially colics, precede the loose stools; while in *ricinus* the latter precedes the loose stools, provided the same are choleraic. As to the differentiation between the eventual use of *camphor* and *ricinus*, in choleraic attacks preceded by diarrhœa, I refer you to what I have said on the subject at a previous occasion, when treating at length on the application of the first named drug.

Veratrum album.—Stools watery, greenish with flakes; vomiting; coldness and blueness of face and hands; colic before every stool; desire for large quantities of cold water; for acids; prostration after every stool, with cold sweat on the forehead, during the stool. Prevalence of either diarrhœic or paralytic cholera. The indications of *veratrum* show that it is best suited to *cholerine*, or to a diarrhœa which appears on the point to assume a graver form of disorder. Under similar circumstances, during prevalence of cholera, simultaneous with, or proceeded by, an outbreak of variola, I would recommend *tartar emetic*.

Of such drugs as *nux vomica, pulsatilla, chamomilla*, etc., we shall only then find occasion to make use, when some infringements against the usual dietetical rules has, to all appearance, given rise to the bowel disorder. Thus:

Chamomilla—after anger.

Nux Vomica—after intemperate drinking, or eating; acidity of the stomach; ineffectual urging to stool; stools with tenesmus.

Pulsatilla—After indulgence in greasy food; diarrhœa, especially at night; greenish, watery; mucus; tongue coated white; feels chilly, yet likes fresh air; finds the room uncomfortable.

Closely related to *veratrum album*, but of a far wider range of action, is *aconite*, the physiological qualities of which I must suppose you are sufficiently acquainted with. *Aconite* is no hæmatic poison; it is in so far inferior to *arsenic* and even to *cuprum*. It resembles, in this respect, *camphor* and *veratrum*. As a tissue irritant its sphere of action goes as far as that of *arsenic;* but it is in this respect far less destructive in its effect than *arsenic*. The irritation set up by it tends toward catarrhal inflammation only, and the condition of the subject thus affected maintains its sthenic character, while arsenical poisoning is invariably associated with an adynamic type. It irritates not only muscular tissue like *veratrum*, but almost any tissue of the human frame, nerve tissue included. As such, it may even produce violent tetanic convulsions, such convulsions being most likely associated with a rise of temperature. Of all those physiological effects we can hardly make use in the treatment of cholera. But over and above its poisonous effects, as a tissue irritant, it is a depressor of nerve-function, especially of the sympathetic nervous system; and when the toxic dose has been so large as to induce nerve depression to its utmost, there is hardly room left for nerve tissue irritation, and the picture represented by the patient is that of total collapse, as described before when speaking of *veratrum*. But in *aconite* it is not only the muscular tissue of the heart which is threatened with paralysis, but not less its ganglia and nerves. Meantime *aconite* appears to depress, in a similar way, the central nervous system.

Wherever, therefore, there is reason to believe that we are dealing with a paralytic form of cholera, brought on by depressing influences, other than mere bodily fatigue, we shall derive far greater benefit, at the first onset of the disease, from the administration of a few doses of *aconite* in rapid succession, than from the *veratrum*.

For the restoration of the function of the blood, as far as its oxygen carrying capacity is concerned, we have, or at least, we believe we have, one drug in our materia medica of which clinical experience has spoken in very laudable terms. I speak here of *carbo vegetabilis*. It is supposed to act both upon the blood and the various tissues, especially upon those portions of the nervous system presiding over nutrition; it devitalizes the blood and exhausts the nerves; at least this is the explanation given of the various phenomena of depression which its provers have shown to be produced, under its influence, on the organism. These symptoms of depression, let it be understood, have been obtained from experiments made with carbo-triturations.

"*Carbo vegetabilis*," says Dr. Bähr, "has done us, not infrequently, good service at a period of the cholera process, where most of us are at a loss how to lay hold upon an effective remedial agent. It is indicated at the asphyctic stage, when vomiting and purging have ceased, when there are no cramps any more, the patient lying, moreover, extremely prostrated—corpse-like. *Carbo* follows often well after *arsenic*; more frequently, however, it suits in cases void of reactionary signs from the very beginning."

Carbo vegetabilis produces hemorrhage from the bowels—a condition not very rare in far advanced cholera patients, the intestinal mucous membrane of such patients being in a congested state. We have seen the benefit we may derive in such a contingency from *mercurius corrosivus*, or *ricinus*, when the discharge is more or less like bloody serum; similar good results may be expected from *carbo vegetabilis* when the discharge consists of pure blood, oozing out of the rectum. It may be that it is in cases where there is internal hemorrhage that we derive most benefit from the administration of the drug in the stage of collapse.

Hydrocyanic acid, or *cyanide of potassium*, does not yield to *arsenic* as far as the great struggle for breath is concerned. In *arsenic* it is the inspiration which is impeded, in *hydro-cyanic acid*, it is particularly the expiration which is spasmodically obstructed. *Hydrocyanic acid* has generally been used as a last resource, when the patient had not benefited by the usual remedies; in this way, the drug was reserved for such advanced cases where the patient is pulseless; altogether more dead than alive. Strange to say, even then a man would now and then actually be taken out of the jaws of death by the administration of *hydrocyanic acid*. By means of the before-mentioned characteristic of the *hydrocyanic acid*, dyspnœa, you will know how to make use of the drug in an earlier stage of collapse, and have, therefore, more chance of saving your patient. The respiratory centres, under the action of the drug under consideration, are fully active to the last: there are deep inspiration, far deeper than is ever the case under the action of *arsenic*, where all functions at the last moments are carried on under the impulse of an inefficient excitement. The excitement *hydro cyanic acid* produces on the spinal cord often causes tetanus—a state we seldom meet with in the last stages of cholera. But there is a certain spinal excitement often manifest at the very last stage which takes us by surprise. I have already spoken, a at previous occasion, of the attempt, on the part of such patients, to leave their bed and move about, in spite of their extreme prostration. Whenever such an attempt arises from a mere excitement of the motor centres, then the determination to move about is likely to be by far stronger than the actual capacity to carry it out. It is in such cases that I recommend *cuprum*. But we often find such patients actually gathering strength, getting up, and aimlessly walking about, stopping only short every time they want to take a deep breath. The irritation in their case is spinal, and *hydrocyanic acid* will often subdue both the irritation of the cord and the spasmodic oppression of the chest.

I should like very much to see, in such cases, *muscarin* tried. Restlessness and constant desire to get out of bed, we all know, is a characteristic of *agaricus muscarius;* it is owing to excitement of the motor nerves, and is accompanied by increased muscular force. It produces, besides, great constriction of the chest. But the analogy between it and cholera does not stop there. Let us hear what Lauder Brunton has to say about *muscarin*. "*Muscarin* affects especially the heart and intestinal canal; it produces uneasiness in the stomach, vomiting, purging, a feeling of constriction in the neck, want of breath, giddiness, fainting, prostration and stupor. * * Respiration is depressed in proportion to the depression of the pulse. * * It lessens urinary secretion, even to the point of suppression; it contracts the pupils. * * *Muscarin* has a singular effect on the pulmonary vessels. Schmiedberg had noticed that *muscarin* produces intense dyspnœa. A condition in which the arteries contain very little blood, scarcely bleeding when cut across. This dyspnœa has been shown, by experiments on rabbits, to be due to the *muscarin* causing strong contraction of the pulmonary blood vessels, so strong that the lungs become blanched, and, owing to the contracted state of the pulmonary blood vessels, the right side of the heart becomes greatly distended."

Muscarin has a second stage which may not less find its counterpart in some modes of cholera collapse.

We administer *lachesis* or *naja tripudians* (*cobra*) when respiration quickens, becoming, at the same time, more and more superficial, while the heart's action is normal, and still comparatively vigorous. This sort of respiration is a sure sign of impending paralysis of the respiratory centre, and coincides in so far exactly with what occurs under the venomous influence of snake poison.

Ammonia might be of service in cases where the heart's action begins to fail, while respiration is still, comparatively speaking, normal. Its indications are, in this respect, the opposite of those of *lachesis* or *naja*.

In impending cardiac paralysis with great somnolency—in the pure type of paralytic cholera collapse—we may find, besides *tart. emet.* and *nicotine* another suitable remedy in *choloral*.

WHAT CONSTITUTES ALCOHOLIC EXCESS?—A paper on this subject by Dr. Henry Leffman (*Polyclinic*, Dec. 15, 1883) concludes as follows: "The limits established would permit a healthy man, without special gouty or dyspeptic tendency, and partaking of food in moderation, to use about half a tumblerful of whiskey, very much diluted, or about two glasses of beer; these amounts to be used only at meals, and not then, if the quantity of food is fully sufficient to satisfy the appetite. The taking of these beverages in the intervals between meals, under influences of social life or acquired custom, must be regarded as instances of alcoholic excess."

THE ODOR OF CHLOROFORM OVERCOME BY OIL OF CLOVES.—Some persons have such a strong aversion to the odor of *chloroform* that it is impossible to anæsthetize them in the usual manner. The best course to adopt is that which is commonly followed in England—the addition to the *chloroform* of a small quantity of *ether* and *ethereal oil of cloves*. In Prof. Nussbaum's operations, 10–12 drops of the mixture are dropped upon the napkin employed in administering the *chloroform*, which so far corrects the odor of the latter that it is rarely refused by the patient.—*Deut. Amer. Apotheker Zeitung.*

PRINCIPLES WHICH SHOULD GOVERN IN THE TREATMENT OF INJURED LIMBS.—Professor Dalton writes: In the light of present experience the injury must be great if a *primary* amputation is justifiable. *Secondary* amputations yield results equal almost, if not quite, to a primary one. This being the case, you are justified in making an effort to save the limb. Amputations should be resorted to when—

1. Where the soft parts are so devitalized restoration may not be expected, as in railroad injuries or severe gunshot wounds.

2. Where the main artery supplying the limb is divided and the soft parts are badly injured, the limb should be removed. This rule does not apply in mere division of the artery, for then it may be ligated at both ends and the limb saved, if the soft parts are not greatly damaged. The division of a large vein or nerve does not place the limb in as great jeopardy as some authorities suggest.

3. The mere exposure of a large joint does not justify amputation. It is only called for when the injury to the joint is associated with a devitalized condition of the associated tissues.

4. No amount of comminuted bone alone should lead to the sacrifice of a limb, for by the movable dressing the parts can be so securely held in position, can be kept so quiet, that repair may always be expected.

5. When amputation is demanded, Esmarch's bandage should always be used. It economizes blood, hence preventing shock. If the operation *must* be made immediately, the elastic apparatus, by saving blood, prevents the increase of shock.

Let amputation be divided into (1) immediate, (2) primary, (3) intermediate, (4) secondary. By the first is meant an operation performed at once. By the second an amputation performed within forty-eight hours, and before inflammation has become established. The third or intermediate is between this and the establishment of suppuration. The fourth or secondary is one performed after the active symptoms have subsided, hardly before the end of seven days. At this time pus is freely proliferated. The intermediate operation is a dangerous one, for it is made in the face of a high grade of inflammation, and therefore should never be resorted to. Immediate operations are often unsafe; the surgeon adds to the shock of the accident the shock of an operation. It is better to wait for reaction. (?) With positive rest and graduated but regular compression such as we get by the movable plaster of Paris dressing, we are destined to enter upon a new career, and our achievements will be marvellous as compared with the past, when, the fragments were hourly disturbed and bandages acted as cords to strangulate.

APHORISMS CONCERNING LIGATION FOR ARTERIAL HEMORRHAGE.—In the *Polyclinic* for Dec. 15, 1883, Dr. John B. Roberts expresses an opinion that styptics are practically useless in general surgery, because either needless or inefficient. Hemorrhage should be controlled by either pressure or ligation. In applying the latter the surgeon should be guided by the following five rules:

1. In primary hemorrhage do not ligate arteries not actually bleeding, but have the patient carefully watched.

2. In both primary and secondary hemorrhage the ligature should be applied, when practicable, in the wound at the point where the artery bleeds and not above, in the continuity of the vessel.

3. If the artery is completely severed, both ends should be ligated; if it is partly divided or punctured, a ligature should be applied on each side of such wound.

4. If a large artery is wounded near its origin, tie it below the wound, and tie the trunk from which it arises both above and below the point of origin of the branch. If a trunk is wounded near the origin of a large branch, tie the trunk with two ligatures in the ordinary manner, and apply a third ligature to the branch.

5. When ligation of the artery in the wound is impracticable, as happens in deep wounds of the pelvis, ligation in continuity may be permitted.

SCHOOL HYGIENE.—Professor Charles J. Lundy, in a paper on this subject, read before the American Public Health Association (*Sanitarian*, Jan. 1884) concludes by suggesting the following rules:

1. Avoid the cramming process in education, and the nervons excitement due to the spirit of rivalry.

2. Reduce the number of subjects in the curriculum, and shorten the periods of study.

3. Ventilate the school-rooms in accordance with the most approved methods.

4. Regulate the temperature of the school-room; an atmosphere which is too warm debilitates the system.

5. Provide properly constructed and arranged seats and desks.

6. Instruct the pupils to sit erect, and to hold the book or paper at least twelve inches from the eye.

7. Provide highly myopic pupils with proper spectacles, which will enable them to read at the natural distance of twelve inches.

8. Furnish pupils with well printed books.

9. Furnish abundance of light, without producing glare. Let it come from the left side if the room is narrow, from both sides if the room is wide.

10. Provide for the physical education of school children, and teach them the importance of out-door exercise.

ON INJURIES TO THE ELBOW JOINT IN CHILDREN.—Mr. Jonathan Hutchinson concludes a highly instructive lecture (*Medical Times and Gazette*, Jan. 5, 1884) by laying down the following practical rules for the management of these cases:

"Never forget the epiphyses, and that they are the weakest part of the bones.

Always suspect that the injury is complicated, in part a dislocation at the joint and in part a displacement at the epiphysal junction.

Remember that simple and complete detachments of the lower epiphysis of the humerus are more common than simple dislocations of both bones backwards.

Never give a diagnosis, if the case is the least puzzling, without putting the child under ether and making a careful examination.

Never be content unless you can easily put the limb up with the elbow well bent.

Be very careful to give a guarded opinion to the parents, knowing that in nine out of ten apparently simple dislocations there is damage either to the coronoid process or the lower end of humerus, and that some impediment to free motion is almost sure to result for a time.

NAPELLINE FOR NEURALGIA.—Dr. Grognot (*Bull. Gén. de Therap.*) reports a case of trigeminal neuralgia, rebellious to a variety of treatment, that finally yielded to *napelline* in doses of 1-600 of a grain every two hours. This dose seems like infinitesimalism, but it is that which is reported.—*Med. and Surg. Reporter.*

WHEN TO USE THE FORCEPS.—Dr. T. G. Comstock, in the *St. Louis Clinical Review*, gives the following aphorisms:

(*Precaution:* If the forceps must be resorted to, it is better not to delay; rather use them a little early in the labor, than wait too long).

1. In the second stage, as soon as labor flags; pains severe, uterine contractions sufficiently powerful, yet the head makes no descent or advance.

2. Presentation fair, head in the vagina, soft parts swollen, the perinæum rigid, and the pains, though severe and trying, cease to be actively progressive.

3. In posterior-occipital positions, where rectification of the position and normal rotation cannot be effected.

4. In cases of puerperal convulsions, dangerous hemorrhage, extreme exhaustion, rupture of the uterus when the head is within reach of the forceps, some cases of placenta prævia, after first trying the colpeurynter or tampon, uterine-motor stimulants (*ergot*), and dilating the os.

5. In complicated labors, when the hand or arm descends with the head; prolapsus of the cord; other expedients having been tried in vain.

6. In breech presentations, to extract the after-coming head as soon as the body has been delivered. In such cases delays are always dangerous to the child.

7. In moderately contracted pelvis, when the head is so compressed as to require assistance.

8. In cases of pendulous abdomen, where we have a pendulous uterus, so that the expulsive pains are misdirected.

9. In face presentations, where the difficulty lies in the lower outlet, and we fail to bring the chin forward under the symphisis pubis; even here the forceps are preferable to turning.

10. In cases of complete impaction of the fœtal head, the forceps are always indicated.

11. When the mother has an organic disease of the heart, is subject to attacks of violent palpitation followed by syncope, is in the last stage of pulmonary phthisis, has a hernia liable to strangulation, or is asphyxiated.

12. In prolonged labor for want of uterine power, and in complete inertia of the womb.

13. When the labor pains are severe, but the natural powers of the mother do not expel the child two hours after the rupture of the membranes, and full dilation of the os.

14. Any other complications or emergencies that may suddenly set in during labor, causing a delay calculated to endanger the life of either mother or child.

EFFECTS OF CASCARA SAGRADA.—Dr. E. A. Herig, of Saginaw, reports (*Therapeutic Gaz.*) a case in which a man experienced considerable difficulty in urinating for about two weeks, after taking *cascara sagrada*. The difficulty soon subsided when the medicine was discontinued, but returned after a few days when the medicine was again taken, and subsided when the drug was not used. No pain tin the urethra or region of the bladder was noticed, and the urine was free from albumen and sugar.

A NEW METHOD OF TOOTH DRAWING.—A small square of India rubber, pierced with a central hole, is pushed over the tooth until the upper part of the roof is reached. The rubber gradually contracts, pulls on the root, and the tooth is finally enucleated without causing any pain. Four or five days complete the operation, while very slight bleeding and slight swelling of the gum are the only inconveniences. This procedure is recommended by a dentist of Geneva.,—*Med. & Sur. Reporter*.

THE LEADING MEDICAL SCHOOLS IN THE UNITED STATES.—Dr. Flavel S. Thomas, writing in the *N. E. Med. Monthly*, Jan. 15, 1884, on "M.D.—What it is, and What it Should Be," says that out of the 110 medical schools in the United States but 12 are worthy of notice in his review. Of these twelve, he thinks that the Boston University School (homœopathic) stands at the head, for the following reasons: "It requires for admission an examination in grammar-school studies, and in physics and Latin. It requires as a condition for graduation not merely that the candidate shall have studied medicine at least three full years, but also that he shall have attended a reputable medical school not less than three years.

"It has restored the degrees, Bachelor of Medicine and Bachelor of Surgery, to be attained at the end of the third year by those who take the four years' course. After the present year none will be admitted under nineteen years of age, so their graduates must be twenty-two or twenty-three. Nineteen are taking the four years' course. The college year is from October to June."

Harvard, in Dr. Thomas' opinion (he being himself a Harvard M.D.) stands next. All the other schools in his list are "regular." "This classification," he remarks, "of course does not take into consideration the clinical advantages afforded by the schools, but as a rule a high educational standard and good clinical advantages go together."

THE ADVANTAGES OF KOUMISS.—In the course of an article by Adolf G. Vogeler in the *Chicago Druggist*, the following occurs:

The reasons why good koumiss is so well borne by a weak stomach, and why it is so nourishing, are shortly these: The casein is so minutely divided that it is most readily attacked by the digestive fluids. Appetite is improved by the stimulating influence of *carbonic acid* on the mucous lining of the stomach.

Lactic acid being an essential constituent of the gastric fluid, the stomach is relieved of part of its work by the presence of that body in koumiss. And finally, the small percentage of *alcohol* increases the gastric secretions, and by increasing the force and frequency of the pulse, the muscular system is built up by the more generous supply of life-giving blood.

TREATMENT OF CHAPPED HANDS AND FROSTED FEET.—At a meeting of the Philadelphia County Medical Society, held November 21, 1883, Dr. Carl Seiler called attention to the value of *tincture of benzoin* in the treatment of chapped hands and frosted feet. He had used it in a number of cases with much success. It is applied by simply painting it on the skin. The stockings may be prevented from sticking to the feet by rubbing some oil over the *benzoin*.

SEVERE HICCOUGH.—Dr. Ruhdorfer, in the *Allgem. Wien. Med. Zeitung*, 1883, No. 38, reports a severe case of the above which resisted all remedies for three months, and which *morphia*, given hypodermically, could only check for a few hours or days. At last the attack became overpowering, and the hiccough was so loud that the patient could be heard outside the house, through two doors. She sat up in bed, supported by her parents; there were dyspnœa and cyanosis, the head was jerked in all directions, the pulse was small and frequent, the neck was distended. Remembering a case in the *Révue Médico-Chirurgicale*, Dr. Ruhdorfer injected a solution of *pilocarpine hydrochlorate*, three centigrammes in a gramme of water. The hiccough was at once cured, as if by magic, and has never returned since.

A GOOD DRESSING FOR ULCERS.—Nearly all of the usual applications to ulcers will, at times, fail, hence we note with a sense of satisfaction that Dr. Maison (*Moniteur de la Policlinique*) finds the *subcarbonate of iron* very efficient. He washes the ulcer with carbolized water, dusts the *iron* on thickly, and applies a starch poultice. The dressing is changed twice a day.

THE AMNIONTOME.—Failing to meet with the success usually ascribed to the finger-nail for rupturing the membranes in labor, Dr. George F. E. Wencke, of Ninety-six, S. C., describes a simple and ingenious device in the *Med. News*, December 8, 1883. It consists of a steel spring frame, to which a small blade is attached. It is adjustable to the index finger of the right hand, but will fit any finger, both right and left. Placed in position, it will not interfere with the main joint of the finger, which can be moved at will while it is firmly attached.

HEREDITARY ATAXIA.—L. Rütimeyer reports several cases resembling Friederich's hereditary ataxia. Eight were in one family and three in another. It appears sometimes as early as the fourth year, sometimes as late as the eighteenth year. The disease is quite different from progressive locomotor ataxia; there is not the lancinating pain; the ataxic gait appears early, and soon there is inco-ordination of the upper extremities; the speech shows disturbance of co-ordination, and there is ataxic nystagmus; tendon reflex is absent; there is often a slight diminution of sensibility; muscular sense is not disturbed; at length there is paraplegia with contracture; bed-sores rarely form; there is no disturbance of bladder; the mind is not affected.

Rütimeyer thinks the disease affects the spinal cord primarily, the medulla oblongata and corpora quadrigemina secondarily. Dr. William A. Hammond has also suggested (*Journ. of Nervous and Mental Diseases*, July, 1882) that the medulla oblongata may be the seat of the lesion in this affection.—*Virchow's Archiv.*, vol. 91, 1882.

THE INSTANTANEOUS BLOODLESS TRACHEOTOME.—This ingenious and useful little instrument (says Dr. E. C. Franklin, in the *St. Louis Periscope*) we purchased of the proprietor, Dr. J. La F. King, of Springfield, Ill. Recently an opportunity was given us to test its practical value in tracheotomy for croup. The result showed the great superiority of this new appliance over the cumbersome, tedious and oftimes bloody operation of the old regime. The horror of the knife, so objected to by parents, is a thing of the past, for with "the tracheotome," the operation can be performed in less than a minute, without shedding a drop of blood and without an assistant. The great advantage is, that the consent of the parents can be more readily gained, and thus valuable time is saved for the child's benefit. The puncture can be made at any available point, and is so small that if a branch of an artery is wounded, the tube acts as a wedge and prevents hemorrhage. We like the instrument, and can conscientiously recommend it to the profession as one of practical value.

VOICE-TRAINING BY CHEMICAL MEANS.—How to enrich the tone and extend the range of the human voice by calling in the aid of chemical science was the subject of an interesting lecture, recently given in Glasgow, by Dr. Carter Moffat, who was formerly Professor of Chemistry in the Glasgow Veterinary College, and who is an Italian gold medallist for many successful industrial investigations and discoveries. Dr. Moffat claims for the *peroxide of hydrogen* the power of greatly improving the quality and *timbre* of the human voice; and he was led to advocate its employment by public singers and others, on the ground that it is a marked constituent in the air and dew of Italy, and that from its presence arises the beauty of Italian vocal tone. After a full and clear statement of his views upon the subject, a series of illustrations were given, several of the audience being brought forward and given to inhale a chemical compound made to represent Italian air. The results obtained were held to be very satisfactory to those present, a full, clear, rich, mellow tone being produced with a single application. Dr. Moffat's illustrations on his own voice were especially remarkable, he being able, by these chemical means, to change it from a voice of power and resonance, but destitute of intonation, to a tenor of considerable range. The lecture, which dwelt on quite a new subject, was very well received by a large audience, chiefly composed of professional men and musical critics, and we understand that arrangements have been made for its re delivery.—*British Medical Journal.*

COCA.—Dr. H. D. Hicks writes concerning this agent (*New York Medical Journal*, February 23, 1884):

I have used it, both personally and in my practice, and find it of great service in the following conditions:

To prevent and relieve fatigue.

In those cases of backache accompanied by high-colored urine with excessive amounts of urates and uric acid.

In short breathing dependent upon weakness of the muscles of respiration.

Palpitation of the heart, without valvular lesion, due to dilatation or to weakness of the heart muscle.

It renews the vigor of the intellect and relieves mental exhaustion, rendering the flow of thought more easy and the reasoning power more vigorous.

It dissipates "the blues," leaving the mind calm. By its use the depression following an indulgence in alcoholic liquors is relieved, and it invigorates the exhausted sexual function due to excessive venery.

It destroys the craving for alcohol, and, in small doses, is useful in sick headache and headache resulting from overexertion. Its habitual use as a part of the daily diet conduces to mental clearness and activity, freedom from fatigue, and sound sleep.

I am using it in all cases in which the balance between nourishment and waste is not maintained, and find it a valuable assistance. In regard to the dose, I think that the one generally given on the bottle—viz., ʒ j-iv—is too much. I find just as good effects from ʒ ss for an adult.

FARADIZATION IN RINGWORM.—Dr. Alexander F. Samuels writes to the *New York Medical Journal* that a short time since he had a very obstinate case of ringworm on the forearm of a stout mechanic. He tried all the known remedies without success, and, finally, more as an experiment than anything else, he applied the Faradaic current—the handle of the positive pole at the end of the elbow, the flat electrode of the negative pole passed repeatedly over the seat of the disease. The itching, which was intense, ceased immediately, and a clear exudation, like minute drops of sweat, appeared on the surface. A second application, two days afterwards, left nothing of the ringworm but desquamated skin. A mild emollient ointment was applied between the applications of the battery.

EUCALYPTUS IN BALDNESS.—A California physician was in the habit of pounding to a pulp the leaves of Eucalyptus, which he applied to his head for the cure of headache, and was surprised to find a new and abundant crop of hair commence to grow.

MISCELLANY.

—Try buttermilk for the removal of freckles and tan.

—An attempt is to be made, on a large scale, to drain and replant the Roman Campagna.

—According to statistical returns, there are no less than 2,432 female physicians in the United States.

—Baltimore has an Inspector of Plumbing, an office which should be created in every city of the country.

—The next International Otological Congress will meet at Basle on September 1st, and continue until the 4th.

—To-day (says the editor of the *Medical and Surgical Reporter*), the sensible physician really treats symptoms.

—Dr. C. A. Tinker has removed to 4 W. 125th street, Dr. Raymond Pattee succeeding Dr. Tinker at Mott Haven.

—Addison, it is said, was one of the ablest of medical teachers, and yet he was born of insane blood and died by his own hand.

—Kassowitz, of Vienna, professes to have derived great benefit in the treatment of rickets with small doses of *phosphorus*.

—Dr. Alfred L. Carroll, of Staten Island, has been elected Secretary of the State Board of Health, in the place of the late Dr. Harris.

—The new medical law in Virginia requires graduates of every medical school to be examined by a State Board for license.

—Beef tea, made red hot with red pepper, is the very best treatment for delirium tremens—so says the *American Druggist*.

—Yellow fever is stated to be playing havoc with the *employés* on the works connected with the construction of the Panama canal.

—Robert B. Tolles, the most eminent maker of microscopic objectives in the world, died, in Boston, on December 17, 1883, aged 62 years.

—Dr. Francis M. Gunnell has been appointed Surgeon General of the navy. Dr. Gunnell has served in the medical corps thirty-five years.

—Dr. J. H. Pulte, an old and highly respected member of the profession, and patron of the medical school which bears his name, died recently in Cincinnati.

—A writer in the *Journal of the American Medical Association* avers that there is no doubt that baking powders, even the best of them, are damaging to health.

—The clinical thermometer was used and commended by Antonius de Haen one hundred and twenty-nine years ago. Its re-introduction occurred fifteen or eighteen years ago.

—Question for the experts—Were the archæologists sane when they plastered a new arm on the bearded Venus, and supplied the high priest with a fresh article of nose?

—Dr. J. C. Burgher, General Secretary of the American Institute, announces that the next meeting of that body will be held at Deer Park, Maryland, commencing June 17th, next.

—In the *New Orleans Medical and Surgical Journal*, December, 1883, Dr. J. J. Burroughs reports a case of cæsarian section, with successful delivery of a living fœtus; the mother died.

—The Italian Government has determined to offer, on the occasion of opening the Turin Exposition, a prize of 10,000 francs for the most practical process for the transmission of electricity.

—Prof. Parvin says that a strict milk diet is the best and almost certain remedy for the albuminuria of pregnancy. A recent case thus treated was delivered of twins, no convulsions occurring.

—Dr. R. J. Hall, of New York, has cured five or six cases of hydrocele with injections of *carbolic acid*, which he prefers to *iodine*. He used half a drachm of the pure acid, never more than one drachm.

—At a recent meeting of the Medical Society of London, Dr. W. A. Duncan exhibited an entire uterus with epithelioma of the cervix, successfully removed per vaginam by Schrœder's operation.

—Mr Dalby, the English aurist, finds that congenital deafness is commoner among the offspring of cousins who marry than among the offspring of unrelated persons of whom one or both are congenitally deaf.

—It is said that in former times the heavy drinkers of England had the custom of drinking a glass of oil at the beginning of a meal; thus they prevented the rapid absorption of alcohol by the stomach, and so avoided drunkenness.

—Mrs. A. E. Farrington, Dunellen, New Jersey, will receive a limited number of patients, mentally ill, into her own family, with the best and experienced care. Surroundings unexceptionable. Correspondence solicited.

—The dose of *nitro-glycerine* recommended by Dr. Roberts Bartholow, in albuminuria, is one minim of the one per cent. solution three times a day, or every three or four hours. It is to be used after the subsidence of the acute symptoms.

—In some bankers' edifices, in Paris, glass is used, instead of boards, as flooring. The glass is of a bluish tinge, but this is said to be agreeable, rather than otherwise, to the clerks who work beneath it, and who can transact their business, even on dull days, without the aid of gas.

—To preserve fruit in a fresh condition for many months, place it in a very fine sand sufficiently thick to cover it, after it has been well washed and dried and moistened with brandy. A wooden box is the best receptacle to use, and it should be kept well covered and in a warm place.

—Dr. C. H. Hughes, of St. Louis, considers that "there is an intimate relationship between nervous depression and glycosuria. The influence of agencies that conserve, recuperate and tranquilize the nervous energies tend to prove this, especially that of galvanism, when applied to the occipital regions."

—The Post-Graduate Medical School recently opened its new building, at 226 E. Twentieth street, for the inspection of its friends, and it was found to be most complete for the purposes designed. Every facility for teaching, and for the care of patients, is afforded, and the post-graduate will find here an opportunity for study, which will prove most satisfactory.

—There are nineteen Chinese lepers in a San Francisco hospital awaiting return to their native land. The return is delayed because of the difficulty the steamship companies find in landing such cases at Hong Kong.

—The Kansas City Hospital College has a faculty composed of old and new school physicians. The Missouri State Board of Health has refused to recognize its graduates. The college has applied to the Supreme Court for a mandamus ordering the State Board to show cause why it should decline to register its diplomas.

—Dr. Holmes relates the following to illustrate the significance of small things in the sick room: "Will you have an orange or a fig?" said Dr. James Jackson to a fine little boy, now grown up to a goodly stature. "A fig," answered Master Theodore, with alacrity. "No fever there," said the good Doctor, "or he would certainly have said an orange."

—Changes of stations of medical officers of the navy for the week ending March 22, 1884: Passed-Assistant Surgeon T. H. Streets, from Museum of Hygiene, Washington, for duty in the Coast Survey Service. Passed-Assistant Surgeon C. H. H. Hall from the Naval Academy to the Museum of Hygiene. Surgeon Henry Stewart ordered before the Retiring Board.

—The proper mode of boiling an egg, according to Prof. W. Mattieu Williams, F.C.S., is to place the egg in boiling water, and then remove the saucepan from the fire altogeher, and leave the egg in the water from ten minutes to a quarter of an hour. About half a pint for one egg, three-quarters of a pint for two eggs, or a pint for four eggs, is the quantity demanded if the saucepan is well covered.

—Dr. Henry I. Bowditch, of Boston, has declined an invitation to participate in the forthcoming meeting of the American Medical Association, on the ground of his opposition to the "old code," and to the action of the Association at its last meeting respecting delegates. It looks now as if the friends of a "revised code" will be heard in the next meeting.

—*Papaine*, or *vegatable pepsin*, will rapidly dissolve the membrane in diphtheria. Schaeffer applies a ten per cent. solution every ten to fifteen minutes, and the membrane is removed in a few hours. He has treated forty-seven cases in this way and lost only two. He finds that the fever decreases as the membrane disappears, and therefore believes diphtheria to be a local disease.

—One hundred consecutive cases of small-pox have lately occurred at Sunderland, England. They were of a remarkably mild character, pitting being absent in all of them, and none were fatal. Of the one hundred cases four were unvaccinated; one of these unvaccinated cases was rather severe and of a confluent type, two were of the ordinary kind, and one rather slight.

—An aqueous solution of glucose is said to be coming into use as a new adulteration of milk. It retains the density of the watered milk and imparts sweetness. The cow is allowed to switch her tail through it a few times to give it the requisite "cowey" flavor, after which it looks like milk and is milk; and the corner grocery man is prepared to take his affidavit to give with every quart.

—Dr. Clarke, in his book, "Sex in Education," says that experience teaches that a healthy and growing boy may spend six hours of force daily at his studies and leave sufficient margin for physical growth. A girl cannot spend more than four, or, in occasional instances, five hours of force daily upon her studies, and leave sufficient margin for the general physical growth that she must make in common with the boy, and also for her own development.

—The report of vital statistics for Vienna, 1882, which has just been made public, gives the whole number of births at 29,262, of which 27,857 were living; 15,085 were boys and 14,164 girls; 13 were unclassified. Of the whole number 16,605 were legitimate and 12,657 were not so—a fact which has caused much comment. The birth rate was smaller by 3.8 than in the previous year; the births of living children had also diminished by 4 per cent. The total death rate had increased from 29.2 to 29.5, and the natural increase of population (excess of births over deaths) was 9,135, being 1,292 less than in the previous year.

—A writer in the *Seattle* (Washington Territory) *Herald* asserts that "Dr. James Gates Percival, the distinguished and eccentric poet, was the sole author, compiler and editor of the first edition of Webster's Unabridged Dictionary, giving not only the definitions, but the root and history, of over 16,000 words derived from other languages, including all the written languages of the world—thirty in number—of every one of which he must have had some critical knowledge. The great fortunes of Noah Webster in life, and his world-wide fame as the greatest lexicographer of any age, are based solely upon the unrequitted labor of Dr. Percival, who died in poverty in a miner's cabin in western Wisconsin, 'unwept, unhonored and unsung.'"

—In October last two respectable English physicians performed the operation of inserting a tube into the trachea of a child as a last resort in a case diagnosed as croup. The tube becoming obstructed, the father sucked out the occluding membrane, but the child died two days afterward. The father was attacked by diphtheria, from which he recovered, when he brought suits against the doctors, one for manslaughter and the other for damages. He was unsuccessful in both of these, but was much pleased to know that, in their defence, the doctors had incurred an expense of $5,000. But the profession, headed by Sir William Jenner, took the matter in hand, and each of the doctors has been lately presented with $500, a silver salver, and a complimentary address "richly illuminated."

—Dr. C. K. Mills recently delivered a lecture at the National Museum, Washington, upon "Premature Diseases Among Men in Public and Private Life, Brought on from Over Mental Strain." In the course of it he said that statistics showed the average age, taking all classes of men in the United States, to be about fifty years, and this shortening of life is due almost entirely to over mental activity or irregularities in life. Taking the average age of a few of the most eminent English and American statesmen, that of the English was found to be seventy-two years and that of the American seventy. The English Chief Justices have averaged a life of sixty-eight years, while the Americans only reached sixty. He said that, taking 146 Representatives and fifty-nine Senators of the American Congress, and 121 members of the British Parliament, who had died during the period from 1861 to 1883, he found that the average age attained by the members of the British Parliament was sixty-eight, while the American Representatives only reached fifty-five and the Senators sixty-one years. These deaths were caused by a general breaking up of the system and debility, brought on by overwork, nervousness, mental worry and irregular habits.